

GCTCAGGTTAGCCCGAAAGATGTTCACTATAGATTAGGCACTCTAATTTAATGATCACTGAAAATACTTACTGGCATACTAA
CCAAGAGAATGCAAAAAAGCCGTCTCAAATTATGAAACAGCTATCAACAATTTATAA

(SEQ. ID. NO. 195)

MEGLVRVHLLPVFGDYKLSKLTTPILQQQVKNKWADKANKGEKGAFANYSLHNMNKRILKYGVAIQVIQYNPANDVIVPRKQQ
KEKAAVKYLDNKELKQFLDYLDALDQSNYENLFDVVLYKTLATGCRISEALALEWSDIDLESQVISINKTLNRYQEINSPKS
SAGYRDIPIDKATLLLLLKQYKNRQQIQSWKLGRSETVVFTEKYAYACNLRLKRLNKHFDAAGVTNVSFHGFRHTHTTMMLY
AQVSPKDVQYRLGHSNLMITENTYWHNTQENAKKAVSNYETAINN LZ--

Please delete the first paragraph located on page 101, line 1, and replace therewith the following replacement paragraph. A marked-up version showing changes made to the replacement paragraphs is contained herewith as Appendix B.

--What is claimed is:--

REMARKS

Claims 1-20 are currently pending in this application. Upon entry of the amendments contained herein, claims 1-22 will be pending. No new matter is introduced into the specification by way of these amendments. The Specification amendments are introduced to conform the application to the requirements of 37 C.F.R. § § 1.77 and 1.821-1.825. Support for the claim amendments can be found, inter alia, throughout the application as originally filed, for example, in the originally filed claims; on page 9, last two full paragraphs; and in Table 3. Support for new claim 21 can be found, inter alia, throughout the specification, for example, on page 9, last two full paragraphs. Support for new claim 22 can be found, inter alia, throughout the Specification, for example, on page 9, last two full paragraphs and on page 13, third full paragraph.

Priority

The Examiner has made acknowledgement of Applicant's claim of foreign priority based on "German" foreign application number 9816337.1. Applicants respectfully state that the claim to foreign priority is in fact based upon Great Britain priority application number 9816337.1. Applicants respectfully direct the Examiner's attention to the executed declaration, claiming the benefit of GB 9816337.1, as well as the cover sheet of International Publication Number WO 00/06738 (reciting the priority application GB 9816337.1, and of which the instant application claims benefit), attached herewith as Appendix C. Applicants will provide the Examiner with a certified copy of Great Britain priority application GB 9816337.1 within a reasonable time of receipt of the document.

Restriction Requirement

In the Office Action dated September 22, 2002, the Examiner required restriction of the pending claims under 35 U.S.C. § 121 between one of the following inventions:

- “1.) Claims 7-8 and 13 drawn to DNA, host cell and a vaccine composition, classified in class 536, subclass 23.7. Further election of invention required.
- 2.) Claims 1-6 and 10-12 drawn to polypeptide, classified in class 424, subclass 190.1. Further election of invention required.
- 3.) Claims 15-16 drawn to an antibody classified in class 530, subclass 388.6. Further election of invention required.
- 4.) Claim 9 drawn to a method for inducing immune response using polypeptide classified in class 424, subclass 165.1. Further election of invention required.
- 5.) Claim 20 drawn to a method of use for the treatment or prophylaxis of *S. pneumoniae* infection using protein or polypeptide classified in class 424, subclass 184.1. Further election of invention required.
- 6.) Claim 19 drawn to a method of determining whether a protein is anti-microbial target in vivo or in vitro classified in class 424, subclass 93.1. Further election of invention required.
- 7.) Claim 18 drawn to a method of detecting *S. pneumoniae* infection using nucleic acid, SEQ ID NO:1 classified in class 435, subclass 6. Further election of invention required.
- 8.) Claim 14 drawn to a method of detecting *S. pneumoniae* infection using protein antigen, SEQ ID NO:2, classified in class 435, subclass 7.22. Further election of invention required.
- 9.) Claim 17 drawn to a method of detecting *S. pneumoniae* infection using antibody classified in class 435, subclass 7.22. Further election of invention required.”

See Paper No. 11, page 2. The Examiner further required election of one sequence falling within one of the above-identified inventions.

Applicants were contacted by the Examiner and invited to make an election to a restriction requirement by telephone. The Examiner originally designated (by telephone) as separate inventions the following 5 groups: (I) *S. pneumoniae* nucleic acid sequences (claims 7-8 and 18); (II) *S. pneumoniae* peptide sequences (claims 1-6 and 9-14); (III) antibodies to *S. pneumoniae* antigens (claims 15-17); (IV) methods of assay design (claim 19); and therapeutic methods (claim 20). Based upon this grouping of claims, Applicants provisionally elected by telephone on July 09, 2002, without traverse, the invention of Group V, claim 20, *drawn to therapeutic methods*. To the extent that the restriction requirement in the Office Action dated September 20, 2002, differs from that described in the telephone restriction to which Applicants responded on July 9, 2002, the restriction is traversed. In particular, Applicants submit that there is substantial overlap in scope between Group 4 and Group 5 or Group 6. Dependent claims to particular embodiments may properly fall within the scope of both generic claim 9 and generic claim 20. Likewise, dependent claims to other

embodiments may properly fall within the scope of both generic claim 9 and generic claim 19. Applicants respectfully request that the restriction requirement be recast.

Applicants also submit that the requirement for election of a single nucleotide (polypeptide) sequence is properly characterized as an election of species. Applicants provisionally elect the invention of claim 20, now classified in Group 5.

Consistent with the requirement of election of species, Applicants hereby further elect the protein sequence as set forth in SEQ ID NO:162.

Rejections

35 U.S.C. § 101

The Examiner rejected claim 20 under 35 U.S.C. § 101, as allegedly improperly defining a process. Applicants have amended claim 20 to conform with U.S. Rules of Practice, thereby rendering the Examiner's rejection moot. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 20 under 35 U.S.C. § 101.

35 U.S.C. § 112, 2nd Paragraph

The Examiner rejected claim 20 under 35 U.S.C. § 112, 2nd Paragraph as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. More specifically, the Examiner stated that "the claim does not set forth any steps involved in the method/process, [and therefore] it is unclear what method/process applicant is intending to encompass." *See* Paper No. 11, Page 7, lines 4-6. Similarly, the Examiner stated that the claim is further indefinite because "the claims do not recite positive active steps so that the claims will set out and circumscribe particular area with reasonable degree of precision and particularly [sic] and make clear what subject matter the claims encompass, as well as make clear the subject matter from which others would be precluded." *See* Paper No. 11, Page 7, lines 9-13.

The Examiner further determined that "additional structural parameters, such as amino acid sequence of the polypeptide (for example; SEQ.ID.NO), would enable more definitive identification of the claimed polypeptide without ambiguity." *See* Paper No. 11, Page 7, lines 17-19.

The Examiner also rejected claim 20 as allegedly vague for the recitation of "capable of" within the claim, as this recitation allegedly makes it difficult to determine the metes and bounds of the claim.

Applicants have amended claim 20 to confirm to U.S. practice. As a result of the claim amendment, the Examiner's rejection of claim 20 has been rendered moot. Applicants respectfully request withdrawal of the rejection of claim 20 under 35 U.S.C. § 112, 2nd Paragraph, and reconsideration of the application in view of the amendments.

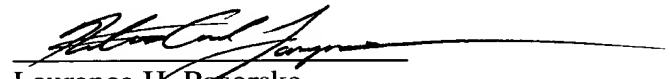
Conclusion

Applicants believe that amendment of the subject application has placed this application in a condition for allowance. Early notification of a favorable consideration is respectfully requested.

Respectfully submitted,

Dated: March 20, 2003

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of :

GILBERT, C.F.G., *et al.*

Serial No.: 09/769,787

Filed: January 26, 2001

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Examiner: Baskar, P.

Group Art Unit: 1645

For: NUCLEIC ACIDS AND PROTEINS FROM STREPTOCOCCUS PNEUMONIAE

Under Secretary of Commerce for Intellectual Property and
Director of the United States Patent and Trademark Office

Washington, D.C. 20231

Appendix A - Version with Markings to show changes made to the Claims

In claim 20:

--20. (Amended) A method for treatment or prophylaxis of *S. pneumoniae* infection comprising administering to a patient in need thereof ~~The use of~~ an agent capable of antagonizing, inhibiting or otherwise interfering with the function or expression of a protein or polypeptide as defined in Tables 2-4 ~~in the manufacture of a medicament for use in the treatment or prophylaxis of *S. pneumoniae* infection,~~ wherein said agent induces an immune response in said patient to a polypeptide having a sequence comprising SEQ. ID NO:162.--

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Appendix B - Version with Markings to show changes made

In the paragraphs starting at page 29, 1st full paragraph (immediately below the heading
"Table 1") and extending to and including the last full paragraph located on page 100:

4101.1 (SEQ. ID. NO. 208)

ATGGAAGAGTTAGTGACCTTAGATTGTTTGTATTGACAGAACTAAGATTGAAGCCAATGCCAACAAGTATAGTTTTGTGTG
GAAGAAAACGACAGAGAAATTTCTCCGCCAACTTCAAGAACAGATACAGGTCTATTTTCAAGAAGAAATCACTCCCCTTCTG
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4101.3 (SEQ. ID. NO. 209)

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GTGACGGTCAATTGGTTGATGCTAAGAAGGATTTGTTTGGTTACCGTTACTATCACTGGACTCCAAATGAAGGTTTCTCTTTG
AATGGTGAACTGATTAATTTCCATGGAGTATCCTTGACACGACCATGGGCGCTTGGAGCAGAAGAAAACCTATAAAGCA
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4101.5 (SEQ. ID. NO. 210)

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4102.1 (SEQ. ID. NO. 211)

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4106.1 (SEQ. ID. NO. 212)

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 TCACCAACGAATTTGTGAAATAA

4106.4 (SEQ. ID. NO. 213)

ATGATAAAAAATCCTAAATTATTAACCAAGTCTTTTTTAAGAAGTTTTGCAATTCTAGGTGGTGTGGTCTAGTCATTCATAT
 AGCTATTTATTTGACCTTTCTTTTTATTATATCAACTGGAGGGGAAAAAGTTAATGAGAGCGCAAGAGTGTTTACGGAGT
 ATTTAAAGACTAAGACATCTGATGAAATTTCAAGCTTACTCCAGTCTTATTCAAAGTCCTTGACCATATCTGCTCACCTTAAA
 AGAGATATTGTAGATAAGCGGCTCCCTCTTGTGCATGACTTGGATATTAAGATGGAAAGCTATCAAATTTATATCGTGATGTT
 AGATATGCTGTTAGTACAGCAGATGGTAAACAGGTAACCGTGCAATTTGTTACGGGGTGGATGTCTACAAAGAAGCAAG
 AATATTTTGTCTTTGATATCTTTTGGTACAAATTTGCTTTTCTTTGTTTTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTT
 GCTCAATCCTCTTTTTTACATTTTCAAGAGTACTAGTAAATGCAAGATTTGGATGACAATATTCGTTTTGATGAAAGTAGGA
 AAGATGAAGTTGGTGAAGTTGGAAAAACAGATTAATGGTATGATGAGCACTTGTGAAGGTTATTTATGAGTTGGAAAGTCG
 TAATGAGCAAAATGTAATAATGCAAAATCAAAAAGGTTTCTTTGTCCGCGGAGCATCACATGAGTTGAAAAACCCCTTTAGCC
 AGTCTTAGAATTAATCCTAGAGAATATGCAGCATAATATTGGAGATTACAAAGATCATCCAAAATATATTGCAAAAGAGTATAA
 ATAAGATTGACCAGATGAGCCACTTATTAGAAGAAGTACTGGAGTCTTCTAAATCCAAGAGTGGACAGAGTGTGCTGAGAC
 CTTGACTGTTAAGCCAGTTTATGATGATATTTATCAGCTTATCAAGAATTAGCTCATTCAATAGGTGTTACAATTGAAAAATC
 AATTGACAGATGCTACAGGGTCTCATGAGTCTTAGGCGATTGATAAGGTTTGGACAAACCTGATTAGTAATGCAATTA
 ATATTCAGATAAAAAATGGGCGTGAATCATATCCGAGCAAGATGGCTATCTCTCTATCAAAAATACATGTGCGCCTCTAAGT
 GACCAAGAAGTAGAACATTTATTGATATATTCTATCATTTCTCAAATCGTGACAGATAAGGATGAAAGTTCCGGTTTGGGTCT
 TTACATTGTGAATAATATTTTAGAAAGCTATCAAATGGATTATAGTTTTCTCCCTTATGAACACGGTATGGAATTTAAGATTA
 GCTTGAG

4106.6 (SEQ. ID. NO. 214)

ATGTATTAGGAGATTTGATGGAGAAAGCCGAGTGTGGTCAATTTTCAATACTTTCTTTCTATTACAAAGAGTCTCAGACGAC
 CGTCAAGGCTGTAATGGAAGAAACAGGATTTTCAAAGCAACCCTAACCAAAATATGTCACCCTGCTCAATGACAAGGCTTTG
 GATAGTGGCTTAGAGCTGGCTATTCACCTCAGAAGATGAAAAATCTGCGTCTGTCTATCGGTGCAGCTACCAAGGGGAGAGATA
 TTCGGAGCTTGTTTTGGAGAGTGTGTTAAATACCAAGATTTTGGTTATCTTTCTCTACCACCAACAGTTTTAGCCCATCAGC
 TGGCTCAAGAATTGGTGATTAGCGAGGCTACGCTTGGTCTGCTGCTGTTTAAATCAGATTTTTGTCAAGATTTGATTTA
 TCCATCAAAAATGGCCGTTGGCGAGGTCCAGAGCATCAGATTCACTATTTCTATTTCTGTCTTTTCCGAAAGGTCTGGTCTGAG
 TCAGGAATGGGAAGGTACATGCAGAAACCAAGAGAGAAAAACAGGAGATTGCCAATTTAGAGGAAAACTGCGGTGCAAGTTT
 GTCTGCGGGGCAAAAATGGACTTGGTTCTCTGGGCTCAGATCAACAGCTCTTGGGTCAATGCTGCTGAGTTTCAAG
 TCATAGAAGAGAAAAATGCGAGGGTATTTGACAATCTCTTTTATCTTCTGTTGCTGAGAAAGGTTCCGTCCTTTTGTCTGG
 CAACATATTCACCTAGGAGTTGAGGATGGTGAGATGATGATATTTCTCTCTTTCTCTCTATCTCATCGCATTCTCTCTTCAT

ACTATGGAGTATATTCTTGGTTTTGGAGGGCAGTTGGCAGATTTACTGACGCAATTGATTCAAGAAATGAAGAAGGAGGAAC
TATTGGGGGATTATACAGAGGACCATGTCACTATGAACCTAGTCAGCTTTGTGCTCAAGTCTATCTCTATAAGGGCTATATT
TTACAGGATCGCTACAAGTACCAGTTAGAGAATCGTCATCCATATTTACTGATGGAACATGATTTTAAAGAGACAGCAGAGG
AGATTTTTCATGCTCTACCTGCTTTTCAACAGGGGACAGATTTAGATAAGAAGATTCTCTGGGAATGGCTCCAGTTAATCGAA
TATATGGCTGAAAACGGTGGCCAGCATATGCGGATTGGTCTGGATTTGACATCTGGTTTTCTTGTCTTTCAAGGATGGCAGC
CATTTTGAACGGTATTTGGAATACAATCGTTTTATTACCATTGAAGCTTATGACCCTAGTCGGCATTATGATTTGCTGGTTAC
CAATAACCCGATTCTAAGAAGGAACAGACACCAGTCTATTATTTAAAAAATGACTTGGATATGGAGGATTTGGTAGCGATT
CGCCAGTTATTATCACTTAA

4106.7 (SEQ. ID. NO. 215)

ATGGAATTTTCAAAGAAAACACGTGAATTGTCAATTAATAAAAAATGCAGGAACGTACCCTGGACCTCTTGATTATCGGTGGAG
GAATCACAGGAGCTGGTGTAGCCTTGCAGGCGGACGTAGCGGCTTTGAGACTGGTTTGATTGAAATGCAAGACTTTGCAGA
AGGAACATCTAGTCGTTCAACAAAATTGGTTACGGAGGACTTCGTTACCTCAAAACAATTTGACGTAGAAGTGGTCTCAGAT
ACGGTTTCTGAACGTGCAGTGGTTCAACAAATCGCTCCACACATTCCAAAATCAGATCCAATGCTCTTACCAGTTTACGATGA
AGATGGAGCAACCTTTAGCCTCTTCCGCTCTTAAAGTAGCCATGGACTTGTACGACCTCTTGGCAGGTGTTAGCAACACACCAAG
CTGCGAACAAGGTTTTGAGCAAGGATCAAGTCTTGGAAACGCCAACCAAACTTGAAGAAGGAAGGCTTGGTAGGAGGTGGAG
TGTATCTTGACTTCCGTAACAACGATGCGCGTCTCGTGATTGAAAACATCAAAACGTGCCAACCAAGACGGTGCCCTCATTGCC
AACCACGTGAAGGCAGAAAGGCTTCCCTCTTTCAGCAAAAGTGGCAAGATTACAGGTGTTGTAGCTCGTGATCTCTTGACAGACC
AAGTGTTTGAAATCAAGGCCGCTCGGTTATTAATACAACAGGTCTTGGAGTGATAAAGTACGTAATTTGTCTAATAAGGG
AACGCAATTTCTCAAAATGCGCCCACTAAGGGAGTTCACTTGGTAGTAGATTCAAGCAAAATCAAGGTTTACAGCCAGTT
TACTTCGACACAGGTTTGGGTGACGGTCGTATGGTCTTTGTTCTCCACGTGAAAACAAGACTTACTTTGGTACAACCTGATAC
AGACTACACAGGTGATTTGGAGCATCCAAAAGTAACCTAAGAAGATGTAGATTATCTACTTGGCATTGTCAACAACCGCTTC
CCAGAATCCAACATCACCATTGATGATATCGAAAGCAGCTGGGCAGGTCTTCG
TCCATTGATTGAGGGAACAGTGCCTCTGACTATAATGGTGAAAATAACGGTACCATCAGTGATGAAAGCTTTGACAACCTTG
ATTGCGACTGTTGAATCTTATCTCTCCAAAGAAAAACACGTGAAGATGTTGAGTCTGCTGTGACGAAGCTTGAAAGTAGCA
CATCTGAGAAACATTTGGATCCATCTGCAGTTTCTCGTGGGTCTAGCTTGGACCGTGATGACAATGGTCTCTTGACTCTTGCT
GGTGGTAAAAATCACAGACTACCGTAAGATGGCTGAAGGAGCTATGGAGCGCGTGGTTGACATCCCTCAAAGCAGAATTTGAC
CGTAGCTTTAAATTGATCAATTTCTAAAACCTTACCCTGTTTCAGGTGGAGAATTGAACCCAGCAAAATGTGGATTACAGAAATCG
AAGCCTTTGCGCAACTTGGAGTATCACGTGGTTTGGATAGCAAGGAAGCTCACTATCTGGCAAAATCTTACGGTTCAAATGCG
ACCGAAAGTCTTTGCACTTTGCTCACAGCTTGGAAACAAGCGCCAGGACTCAGCTTGGCAGATACTTTGTCCCTTCACTATGCAA
TGCGCAATGAGTTGACTTTAGCCCAAGTTGACTTCTTCTCGTACCAATCACATGCTCTTTATGCGTGATAGCTTGGATA
GTATCGTTGAGCCAATTTTGGATGAAATGGGACGATTCTATGACTGGACAGAAGAAGAAAAAGCAACTTACCGTGCTGATGT
CGAAGCAGCTCTCGCTAACAACGATTTAGCAGAATTAATAAAATTA

4106.8 (SEQ. ID. NO. 216)

ATGATGAATGAATTAATTTGGAGAAATTTCTAGGGACTTTAATCCTGATTCTTCTAGGAAATGGTGGTTGTTGCAGGTGTGGTTCT
TCCTAAAACCAAGAGCAATAGCTCAGGTTGGATTGTGATTACTATGGGTTGGGGATTGCAGTTGCGGTTGCAGTCTTTGTAT
CTGGCAAGCTCAGTCCAGCTTATTTAAACCCAGCTGTGACCATCGGTGTGGCCTTAAAAGGTGGTTTGCCTTGGGCTTCCGTT
TTGCCTTATATCTTAGCCAGTTTCGACAGGGGCCATGCTGGGTACAGATTTTGGTTTGGTTGCAATTCAAACCTCACTATGAGGC
AGAAGAAAAATGCAGGCAATATCCTGGCAACCTTCAGTACTGGACCAAGCATCAAGGATACTGTATCAAACCTTGATTAGCGAA
ATCCTTGGAACTTTTGTGTTGGTGTGACAATCTTTGCTTTGGGTCTTTACGACTTTCAGGCAGGTATCGGAACCTTTGCAATG
GGAACCTTTGATTGTGCGGTATCGGTCTATCACTAGGTGGGACAACAGGTTATGCCTTGAACCCAGCTCGTGACCTTGGACCTCG
TATCATGCACAGCATCTTGCCAATTCAAACAAGGGAGACGGAGACTGGTCTTACGCTTGGATTCTGTTGTAGGCCCTGTAT
TCGGAGCAGCTTGGCAGTGCTTGTATTCTCACTTTTCTAG

4106.10 (SEQ. ID. NO. 217)

ATGAAAAGGACCTGGAGGAACCTATTCTGTGACAAATCTTAATACACCTTTTATGATTGGCAATATTGAGATTCCCAATCGTAC
CGTTTTAGCGCCTATGGCTGGCGTGACCAACTCAGCCTTTCTGACTATCGCAAAAGGAGCTCGGAGCTGGACTCGTTGTAATGG
AAATGGTCTCTGACAAGGGAATCCAATACAACAACGAAAAAACCTGCACATGCTTCATATCGATGAGGGCGAAAAACCTG
TCTCTATCCAACCTTTTGGTAGCGATGAAGACAGCCTAGCACGCGCAGCAGAAATTCATCCAAGAAAAACCAAGACCGGATAT
CGTCGATATCAACATGGGCTGCCCTGTCAACAAAATCGTGAAGAACGAAAGCTGGTGCTATGTGGCTCAAGGATCCAGACAAG
ATTTACTCCATCTCAACAAGGTCCAGTCTGCTTGTATCCCACTACTGTCAAAAATGCGTACCGGTGGGCGGACCCATC
TCTTGACGTAGAAAATGCTCTCGCTGCTGAAGCTGCAAGTGTCTTGCCTCGCCATGCATGGCCGTACCCGTGAACAAATGT
ATACTGGCCACGCAGACCTTGAGACCCTTTACAAGGTTGCCAAGCTCTAACCAAGATTCCATTATCGCCAACGGTGATATC
CGTACTGTCCAAGAAGCAAGCAACGCATCGAAGAAGTTGGTGTGACGCAGTCATGATTGGCCGAGCTGCCATGGGAAAT
CCTTACCTCTTCAACCAAAATCAACCATTACTTTGAAACAGGAGAAATCCTACCTGATTTGACCTTTGAAGACAAGATGAAGAT
CGCCTACGAACACTTGAAACGATTGATTAACCTCAAAGGAGAAAAAGCTCGCAGTTCGTGAATTCGCGGGTCTCGCTCCTCAC
TATCTCCGTGGAACATCTGGCGCTGCCAAATCCGTGGAGCCATTTTCGAAGCCAGCACCTTGGCAGAGATTGAAACCTCT
TGCAATTGGAGAAGGCTTAA

4107.1 (SEQ. ID. NO. 218)

ATGACAAAGAAGAAAATTGAGCGTATTTCTGTAATACACCGAGAAAAAGATTTTATGGCTCAAGTGGTATTTTCATGCGAGATA
AAGAACAACCTAAGTATAGTGTCTTGAGCGTAAAATGTTTGATGCTGCTAAAAATCAAGATATGCTAGCTTATCAAAAAATA
CGCAACTATCAAGCAGATAACAGATATTAGGGTACAAACAAGTGAGGCTGACATTTTAGAGGCTGTAAAAGAGGTTTATGTG
TACAATCACATGAATGTTATCGGAGCTTGTGACGGATATTATTTATCAGTCAATCACCAGCTTATGATAAGTTAAATAAGTG
GTTTAATATCTATTCTGATTTGTATTTAGCGTTGTACCCTTGCCAAAAATGGGGTATATCATGAGATGGTAGGTATCTAG

4107.2 (SEQ. ID. NO. 219)

ATGAAAAATTTCAACGAGGCTGAGATGAAATTACTTTTACTGATATTCGGACTTCTTTGACAGAAAATCTAACAAGAGAGG
CAGAAAGAGTAGTTGCAGCTGGCAAGCGGGTCTTCTACATTGCCCCCACTCTTTCTTTTGAAGGAACGCGCGCTGCTG
GAATACTTGTCCAGCAGGCTTCTTTTTCGATTACCGTCACGCGCTTGTCTCAAAATGGCTCGCTATCTGGTCTTGAATGATTTA
CCAGCTAAAACTACTCTTGATGATATCGGTCTTGGGTGGCCTTTTACAAATGCCTTGCCGAACCTCGATCCCAAGGACTTGGC

TGTTTATGGCGCTATTAAGCAGGATCCTCAATTGATCCAGCAGTTAATTGAGCTTTACCATGAGATGACCAAACTCTCAGATGA
 GTTTTTTGGACTTGGAGAATTTAACAGATGAGGATAAGAGGGCGGATTTACTCTTGATTTTTGAGAAAAGTAACAGCCTATCTT
 AATCAAGGTCAGTTAGCCCAGGAAAGTCAGTTGTCCCATTTGATTGAGGCTATTGAGAATGACAAGGTAAGTAGTGATTTTA
 ATCAAATCGCCTTGGTCATTGACGGCTTTACTCGTTTTCTGCTGAGGAAGAGCGGGTGTGGACTTACTTCACGGCAAAGGT
 GTTGAGATTGTTATCGGGGCTTATGCTAGTAAGAAAGCCTATACAGTCCTTTAGCGAGGGCAATCTCTACCAAGCCAGCGT
 AAAATTTCTCCATCATCTGGCTTCTAAATACCAACGCCTGCTCAGGACTGTTCTCAAACCTCATGAGAAGATGGATAGTTTTG
 ACAAGGCCCTCTCGTTTTGTTGAGTCTTCTTATGACTTTTCAGAACTCGCTTTGGATGTGATGAGAAAAGACCGTGAAAAATTTA
 CAAAATCTGGTCTTTGTTGACGCAAAAGGAGGAGTTGGAGCTAGTAGCCCGTAGTATTCGTGAGAAATTACATGAGAATCAG
 ACCTGAGCTACAAGCATTTCGTATTCTCTTGGGGGATGTAGCTTCTTACCAGTTATCTCTCAAAACCATTTTTGACCAGTATC
 AGATTCCCTTTTTATCTTGGTAGAAGCGAAGCCAATGGCTCATCATCCCTTGACTCAGTTTGTGCGAGTCTATTTTAGCTTTAAAC
 GTTACCCTTTTCGTGAGGAGGATTTGATTAATCTTCTTAGAAGTGAATTTGATACTGACCTCAGTCAGTCTGATATTGATGCTT
 TTGAGCAATATATCCGCTATCTTGGTATCAATGGCTTGCCAGCCTTTTCAGCAAAACCTTCACCAATCCCAACCATGGAAAAATTT
 AATCTTGAGCGTTTGAATGTCTCCGCTGAGAATTTTAGCACCTCTTGAAACCCCTCTTGCCAGCCGAAAAACAAAAGGCTGA
 AAAACTCCTACAAAAATGGAGTGTCTTTCTAAAAGAAGGAGCTGTGACCAAGCAGTTACAAGATTGTGACAACCATTTGGAA
 GCTGTAGAACAGGAAAGACAAGCCGAAGTTTGAAGGCTTTTGCCATGTTTTAGAACAAATTCGACTGTTTTGCTGGTTTC
 ACAGGTAGTCTTGGAGCTTCTAGCTTGTCTCCATTGGAATGAGTTTGTCCCAATACCGTACCATTCACGCAACAGCTGG
 AACTGTTCTGGTGCAGAGTTACGATTTGATTGCAACCATTGACTGTGACTTTGTCTATGCTATTGGAATAACTCAGGACAAT
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 CAATTACTGATTGCCAGCAGTGAATACTCAAGAAAAATCGCTACACTATGCTTTCTTGGTCAATTTAGCAGATT
 GTTCTTGTGGCTCCAAGCCTTTTTAACGAAAGTGAAAGTAAGGAATCTGCCTATCTTCAAGAGTTGATCCATTTTGGATTTA
 GGGGAGAGAGAAGAGGATGAATCACAAGGACTGTCTAAGGAGGATATGGGGTCTCTACAGTCTTTTGTCTAGTCTGGT
 TGCCTATCACCAGCAGGGTGAGATGAGCGATACTGAGCAAGATTTGACTTTTGTCAAGGTTCTGTGCGGTGTCAATGTTAA
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 GCTCT

CTATCTTCCCAACAGGAGTTTACCTGTCTACGTCGGGTTTGACAGAGTTTTATCGCAATGAATACAGTTATTTCTACGCT
 ACGTTTTAGGCTTGCAGGGAATACGTTTGCATCTGATGCCCAGTACACGGGAATTTCTTGCATCGTATTTTGAACGC
 GCCTTACAGTTGCCTAATGAAGATTCTTTGACCAACGCTCTAGAACAAGCTATTCAAGAAACAGTCAAGAACCGCAATTTG
 AAGCTATTTATCAAGAAAGTTTGAAGCCCAAGTTTACCAAGGAAGTTTGTCTGATGTTGCACGGCAACTGGACATATTCTC
 CGACACAATCCAGCCATCGAAACCATCAAGAAAGAAAGCAAAATTTGGTGGAAAAAGACCAAGCCTTTTCAATTAGACAAT
 GGACGCAATCTTGTGACGAGGCAAGGTGGACCGGATTGACGTTTGAAGCTAATGGAGCGATAGGATGAGTAC
 AAATCCAGTCTGACTCAGTTCCAGTTTCTCATTTCTTAAATGGGCTCAATTCTCAGTTACCAACCTATCTTGTCTGCCCTAAAA
 AGAGAAGGGGAGCAGAATTTTTCGGCGCCATGTACTTGGAAATGGCTGAACCTGTCCATCTCTGATGGCGGTAAAAAGTCT
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 AATTTTATAACAAAAAAGGCTAATCAACTGACAGATGAGGAATTTTCTGCTCTACTGGACTACAATGCCTATCTTTACAA
 GAAAGCTGCTGAGAAAGATTTTAGCAGGCGGTTTCGCCATCAATCCTTATACTGAAAAATGGCAGAAGCATTGCCCCATACGTC
 CAGCAACATCAGGCTATTACAGGCTTTGAAGCCAATTACCATCTGGGCCAAGCCCGTTTCTAGAAAAGTTGGACCTAGCTG
 ATGGCAAGCCTCTGGTCGGAGAAAACTCAAGCAAGCTTGGCTTGAAAAATAA
 GAGAGGAGTTGAATCGATGA

4107.3 (SEQ. ID. NO. 220)

ATGAAGCTTATTCCTTTTAAAGTGAGGAGGAGATTCAAAAACTGCAAGAAGCAGAAGCAAAATTCGAGCAAGGAACAGAAG
 AAAACTGCCGAGCAAAATCGAAGCTATCTACACTTCTGCCAGAATATCCTGGTCTCAGCATCGGCTGGTTCTGGAAAGACCT
 TTGTCATGGCAGAGCGCAATTCGGACCAATTGGCGCGTGGTGTCGAAAATTTCTCAACTCTTTATCTCAACCTTTACCGTCAAG
 GCTGCAACTGAGATTTAAAGAACGTTTGAAGAAAAAATCAGTGAAGAAATCCAGAAACAGATGATGTCGACCTCAAAACA
 CACTTGGGTGCGCAGTTGGCAGACCTACCAACGCTGCCATTGGAACCATGGATTCTTTCACACAAAAAATCCTTGGCAAAC
 ATGGTTATCTGCTTGATATTGCACCTAATTTCCGATTTTACAAAAACCAAGCGAGCAACTTATTCTCGAAAACGCAATCTTT
 CATGAGGTCTTTGAAGCGCATACCAAGGTAACAGAAAGAGACCTTTAGTCAATTTGCTGAAAAAATCCTTGGCGGTGGCA
 AGGACGAACGGGGTCTCGCCAGCAGGTCTATAAAATCTAGACTTCTCTCAATCCACCAGTAATCTCAAAAAGTGGCTGAG
 TGAATCTTCTCAAAGGATTTGAGAAAGCTGATTTTACCAGTGAAAAAGAAAACTGACCGAGCAAAATCAACAAGCCCTT
 TGGGATTTGGAAGCTTTTTCGGTTACCATCTGGATAACGATGCCAAGGAGTTTGCAAAGGCTGCCTATTTAGAAAATGTTCA
 GTTAATCTGGATGAAATGAGAAATTCACGCTATGCGCAAAAATCCCAAGAAAGGCAGGCTCATTATCCTCAAGGAAAAAT
 TCTCTAAGGAGAAAAACGGTGCAGCTCTGACTAATGCCAGCCGTAAGGCTGATTTGAAGCCCTGGCTGATGCCTACAACGA
 AGAGAGAAAGACCCAGTTTGCTAAACTAGGACAATTATCAGACCAGATAGCGAT
 TCTCGACTATCAAGAACGTTATCATGGAGACACTTGGAACTAGCTAAAACCTTCCAATCTTTATGAGCGATTTTGTAGAGG
 CTTATCGTCAGAGAAAAACGACAGGAAAAATGCCTTCGAATTCGTGATATCAGCCATTACACCATTTAGAGATTTAGAGAATTT
 CCCACAAGTTCTGTGAGTCTTATCAGGAGCGCTTCCATGAAGTCATGGTCGATGAGTATCAGGATACCAACCATATTCAAGAA
 CGGATGCTGGAAATGTTGTCTAATGGCCACAATCGCTTTATGGTGGGAGATATCAAGCAATCCATCTATCGTTTCCGTGAGGC
 AGACCCGAGATTTTCAATGAGAAATTCACAGCTATGCGCAAAAATCCCAAGAAAGGCAGGCTCATTATCCTCAAGGAAAAAT
 TTCCGTAGTAGTTTCAAGTGTCTGACGAACCAATGATGTCTTTGAACGCTCTCATGGACCAAGAGGTGCGCGAAATCAACT
 ATGATAACAAGCACCAAGCTTGTTTTGGCAATACCAAACTGACTCCCAATCCAGACAACAAGGCAGCATTTCTCTCTACGAC
 AAGGACGATACAGGTGAGGAAGAAGAGAGTCAAAACAGAAACGAACTAACAGCGCAAAATGCGCTTAGTTATCAAGGAGAT
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 CATGCTAGACACTCTTCTGTCTATCACAATCCCTGCAAGACTACGCTTGGTTGCCCTTATGAAGTCTCCAATGTTTGGTTT
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 GCACAAAAAATGGCAAGTAGTCAAAAAGGCTTGATTACACAGCTCTAGCTG
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 ACTGCTGATGATCAATTTGAAAAGAGCAATTTCAAGGTTTGTGCGCTTTTATTCGTATGATTGACCAAGTCTTAGAAGCCC
 AGCAGATTGGAAGCGTGGCCGTGCGACCGCCAAAAGATGCAGTAGAGTCTATGACCATCCACAAGAGTAAAGGGCTGG
 AGTTTCCTTACGTCTTATCTCTCAATATGGATCAAGATTTCAACAAGCAAGACTCTATGTCAGAAGTCAATCTCAGTCGTCA
 AATGGCTTGGTGTCAAAATATTTGCCAAGATGGAGACAGGGGAGTGAAGAACCACTATCTCAAACTCAAACTCTCA
 TTCCTAGTCTGACCTATAGCAGAACGAAGAGGAATTACAGCTAGCAAGCTATTCTGAGCAGATGCGTTTGTCTGATGTTGCT
 ATGACGCGGGCTGAGAAAAAGCTCTATCTTGTGCGCAAGGGTTCTCGTGAAAAGCTGGAATCCAAGGAATACCCAGCAGCC
 AAAAATGGGAACTAAATAGCAATACTAGACTGCAAGCACGGAATTTCCAAGATTGGCTTTGGGCTATCAGTAAAGTGTTTA

CTAAGGACAAGCTCAACTTTAGTTATCGTTTTATTGGCGAAGATCAGTTGACCAGAGAAGCTATCGGAGAGTTGGAAACCAA
GAGTCTCTCCAAGATAGCTCCCAAGCAGACAATCGTCAGTCAGATACCATCAAAGAAGCTCTGGAAATGCTGAAGGAGGT
GGAAGTTTATAATACTCTTCAACCGCGCAGCTATTGAACCTTCCTAGTGTCAAACCCCAAGTCAAATCAAGAAATCTACGAAC
CAGTTATGGATATGGAAGGTGTCGAGATTGCTGGTCAAGGTCAGTCAGTAGGCAAGAAATCAGCTTCGATTGGCCAGATTT
TTCAACCAAGAAAGGTAAGCTGGAGCTGAGATTGGTAGTGCTACTACGAACTCATGCGAGAGAATTGACCTCAGCCAGCA
ACTAACCTTGTAGCTAACAGAAACACTCAAACAAGTTCAAAGCTGTCAGAGACAAGATCAATCTTGATAAA
ATTCTTGCTTTCTTGACACAGTACTCGGTGAGGAAATCTTGCTAAATACCGACCATCTTTATCGCGAGCAACCTTTCTCCATG
CTCAACGACCAAAAGAGTCAGGAAGACTTTGTTGCTCGGTGATACCTTGATGGCTATCTGCTTTACGAAAACAAAATTG
TTCTGTTGACTACAAGACAGACCGCTATGATGAACCAAGTCAACTCGTAGACCGCTATCGTGGTCAGTTAGCTCTATACGA
AGAGGCTTTATCAGAGCCTATTGCGATTGAAAATATTGAAAAATACTTGATTTTACTCGGTAAAGACGAGGTTCAAGTTGTA
AAAGTATAA

4109.1 (SEQ. ID. NO. 221)

ATGGAACCTGCTCGCCATGCTGAAAAGCTTGGGAGTAGATGCTATTGCAACGATTCCACCAATTTATTTCCGCTTGCCAGATA
CTCAGTTGCCAAATACCTGGAACGATATCAGTTCTGAGCTCCAAACACAGACTACGTGATTTACAACATTCCTCAATTGGCAG
GGGTGCTTTGACTCCAAAGCCTTACACAGAAATTTGAAAAATCCTGTTATCGGTGTGAAGAACTCTTCTATGCCAGT
CAAGATATCCAAACCTTTGTCAGCCTTGGTGGAGAAGACCATATCGTCTTAATGGTCCTGATGAGCAGTTCCTAGGAGGAC
GCCTCATGGGGGCTAGGGCTGGTATCGGTGGTACTTATGGTGCTATGCCAGAAGCTCTTCTTGAAAATCAATCAGTTGATTGCG
GATAAGGACCTAGAAACAGCGCGTGAATTGCAATGCTATGCTCAACGCAATCATTGGTAAACTCACTTCTGCTCATGGAAATA
TGTACGGTGTATCAAAGAAGTCTTGAAAATCAATGAAGGCTTGAATATTGGATCTGTTGCTTACCATTGACACCAGTGACT
GAAGAAGATCGTCCAGTTGTAGAAGCGGCTGCTGCCTTGATTGCTGAAACCAAGGAGCGCTTCTCTAA

4110.2 (SEQ. ID. NO. 222)

ATGTATAAGACAAAGTGTTCACGAGAGAAGTTAGTATTATTTTTAAAAATTTTCTTCCCAATCCTGATCTACCAATTTGCCAA
TTATCTGCCTCTTTTGTGATACTGCAATGACAGGTCATACAACACTATGGACTTGGCTGGTGTATCTATGGCAACCAGTA
TCTGGAATCCTTTTACATTTCTAACAGGGATTGTGTCAGCCTTGGTGCCATCATTTGGTACCATTGTTGGTCGAGGCAAAA
AGGAAGAAGTTGCGTCTGATTTTTACCAATTTATTTATTTGGCCTTGGGCTATCTGTGGTCTTGTGGGGATGGTACTTTCT
TGGCACCAATAATCTTGAATCATATTGGGTTAGAAGCAGCAGTAGCGGCAGTAGCGGTTCGCTATCTTTGGTTTTATCTATC
GGGATATCCCCCTTGTGCTCTTTAGCGTCATTCGTTCTTGGTGGATTGCTGGGCTTGACCAAACTGTCCATGTACCTCATG
CTTTTGTATCCTCTCTCAATAGCGGATTAACTATCTTGATTATGCTTACGGTTCGCTTGGTGTTCAGAACTGGGAGCGGCTGGT
GCTGGTTTGAAGACATCCTTGGCCTACTGGGCTTGTGCTGGGATTCTGTTCTGGTTTTATTTAAACAGGAGAAGCTCAAAGC
CTTACACCTTGAGAAACGAATCCACTTAATATGGATAAAATTAAGGAAGGAGTTGCTTTAGGTCTGCCTATTGGGGGAACT
GTCTTCGCGGAAGTGGCTATCTTTTCAAGTCTTATGTACGCTTTCCTATGAGTATCTCATCGGCTATGGCTATTGTGCTTTCCTATGAAGTGGGA
GCCAAGCGATTGATGATGCGAAAACCTATATTGGTCTAGGAAGATGGACTGCCCTCATTTTTGCGGCTTCACCTTAACCTT
CCTTTACATTTTTAGGGGAAATGTGGCCAGTCTTTATGGTAACGACCCAAAATTTATCGATTGACAGTGCGTTTTTTAACTTA
TAGTCTTTTCTTCCAGTTAGCAGATACCTTTGCGGCGCGCTTCAGGGAATTTTGGCGGGGTATAAGGATACAGTTATTCCTTT
TTACCTTGGTTTGGTTTATTGGGGCGTAGCAATCCCTGTGTACGCTATTGA

4112.2 (SEQ. ID. NO. 223)

ATGAGTACTTTAGCAAAAATAGAAGCGCTCTTGTGTTGAGCGGGTGAAGATGGGATTCGGGTCCGCCAGTTAGCTGAAGTCC
TCTCTGTCACCGACAGGCATCCAGCAAAAGTTTAGGAAAATTAGCCAGAAATGAAAAAGGACCCAGATTCCAGTTTGGC
TTTGATTGAGACAAGTGGTGTATAGATTGGTGACCAAGCCTCAATTTGCGAGAGATTTGAAGGAATACCTTAAGGCGCCT
ATCAACCGAGCTTGTCTCGGGCTGCCCTTGAGACCTTGTCCATTATTGCCTACAAACAGCCGATTACGCGAGTAGAAATTGA
TGCCATCCGTGGAGTTAACTCGAGTGAGCCTTGGCAAAAGTTGCAAGGCTTTTGACCTGATAAAGGAAGACGGGAAAAAGGA
AGTATTGGGGCGCCCCAACCTCTATGTGACTACGGATTATTTCTAGATTACATGGGGATAAACCATTTAGAAGAATTACCA
GTGATTGATGAGCTTGAGATTCAAGCCCAAGAAAGCCAATTATTGGTGAAGGATAGAAGAAGATGAGAATCAATAA

4113.1 (SEQ. ID. NO. 224)

ATGGATACGATGATTAGTAGATTTTTTCGCCATTTATTTGAAGCCTTAAAAAGTTTGAACGAAATGGTTGGATGACAGTAGC
TGCTGTGATCTCAGTCAAGTATTACTTTGACCTTGGTGGCAATATTTGCATCTGTTATTTTCAATACAGCGAAACTAGCTACAG
ATATTGAAAATAATGTCCGTGTAGTAGTTTATATCCGAAAGGATGTGGAAGATAATAGTCAGACAATTGAAAAAGAAAGGTCA
AACTGTTACAAATAATGACTACCAACAGGTATATGATTCTTTGAAGAATGCTACGGTTAAAAGTGTACCTTTTCAAGTA
AAGAAGAACAATATGAAAAATTAACCGAGATAATGGGAGATAACTGGAAAAATCTTTGAAGGAGATGCCAATCCTCTCTATG
ATGCCTATATTGTAGAGGCAAAACACTCCAAATGATGTAAAAACTATAGCCGAAGATGCTAAAAAAATGAAGGTGTCTCTGA
GGTTCAAGATGGCGGTGCCAATACAGAAAGACTCTTCAAGTTAGCTTCATTTATCCGTGTTTGGGGACTAGGGATTGCTGCTT
TGTTAAATTTTTATCGCAGTTTTCTTGATTCAAAATACCATTCGTTATTACCATTTTCCCGCAGTCGCGAAATTCAAATCATGC
GCTTGGTCGGAGCTAAAAACAGTTATATCCGTGGACCGTCTTCTTTAGAAAGGAGCCTTTATCGGTTTATTGGGAGCTATCGCA
CCATCTGTTTTGGTCTTTATTGTTTATCAAAATGTTTACCAATCTGTCAACAAATCGTTGGTAGGGCAAAATCTATCCATGATT
AGTCCAGATTTATTTAGTCCGTTGATGATTGCCCTACTATTTGTGATTGGGGTTTTCAATTGGTTCATTGGGATCAGGAATATCC
ATGCGCCGATTCTGAAGATTAG

4117.1 (SEQ. ID. NO. 225)

ATGAAGAAAGTAAGATTTATTTTTAGCTCTGCTATTTTCTTAGCTAGTCCAGAGGGTGCAATGGCTAGTGATGGTACTTG
GCAAGGAAACAGTATCTGAAAGAAGATGGCAGTCAAGCAAAATGAGTGGGTTTTGATACTCATTATCAATCTTGGTTC
TATATAAAAGCAGATGCTAACTATGCTGAAAAATGAATGGCTAAAGCAAGGTGACGACTATTTTACCTCAAATCTGGTGGCT
ATATGGCCAAATCAGAATGGGTAGAAGACAAGGGAGCCTTTTATTTATCTTGACCAAGATGGAAGATGAAAAGAAATGCTT
GGGTAGGAACCTCCTATGTTGGTGCAACAGGTGCCAAAGTAATAGAAGACTGGGTCTATGATTCTCAATACGATGCTTGGTT
TTATATCAAAAGCAGATGGACAGCAGCAAGAAAGAAATGGCTGCTTAAAGGGAAGGAACTATTATTTCAATCCGGTGG
TTATCTACTGACAAGTCAGTGGATTAATCAAGCTTATGTGAATGCTAGTGGTGCCTAAAGTACAGCAAGGTTGGCTTTTGGACA
AACAATACCAATCTTGGTTTACATCAAGAAAAATGGAACATGCTGATAAAGAAATGGATTTTCGAGAAATGGTCACTATTA
TTATCTAAATCCGGTGGTACATGGCAGCCAATGAATGGATTGGGATAAGGAATCTTGGTTTTATCTCAAAATTTGATGGGA
AAATGGCTGAAAAAGAAATGGGTCTACGATTCTCATAGTCAAGCTTGGTACTACTTCAAAATCCGGTGGTTACATGACAGCCAA
TGAATGGATTGGGATAAGGAATCTTGGTTTTATCTCAAAATCTGATGGGAAAAATAGCTGAAAAAGAAATGGGTCTACGATTCT
CATAGTCAAGCTTGGTACTACTTCAAAATCCGGTGGTTACATGACAGCCAATGAATGGATTGGGATAAGGAATCTTGGTTTTA

CCTCAAATCTGATGGGAAAAATAGCTGAAAAAGAAATGGGTCTACGATTCTCATAGTCAAGCTTGGTACTACTTCAAATCTGGT
 GGCTACATGGCGAAAAATGAGACAGTAGATGGTTATCAGCTTGGGAAGCGATGGTAAATGGCTTGGAGGAAAAACTACAAAT
 GAAAAATGCTGCTTACTATCAAGTAGTGCCCTGTTACAGCCAATGTTTATGATTTCAGATGGTGAAGCTTTTCTATATATCGCA
 AGGTAGTGTCTGATGGCTAGATAAGGATAGAAAAAGTGATGACAAGCGCTTGGCTATTACTATTTCTGGTTTGTGAGGCTAT
 ATGAAAAACAGAAAGATTACAAAGCGCTAGATGCTAGTAAGGACTTTATCCCTTATTATGAGAGTGATGGCCACCGTTTTTATCA
 CTATGTGGCTCAGAATGCTAGTATCCAGTAGCTTCTCATCTTTCTGATATGGAAGTAGGCAAGAAATATTATCGGCAGATG
 GCCTGCATTTTGTATGGTTTAAAGCTTGAGAATCCCTTCTTTTCAAAGATTAAACAGAGGCTACAAACTACAGTGTGAAGAA
 TTGGATAAGGTATTTAGTTTGTCTAAACATTAACAAATAGCCTTTTGGAGAACAAAGGGCGCTACTTTAAAGGAAGCCGAAGAAC
 ATTACCATATCAATGCTCTTTATCTCCTTGCCCATAGTGGCCTAGAAAAGTAACGGGGAAGAAAGTAAAAATTGCCAAAGATAA
 GAATAATTTCTTTGGCATTACAGCCTATGATACGACCCCTTACCTTTCTGCTAAGACATTTGATGATGTGGATAAGGGAATTT
 TAGGTGCAACCAAGTGGATTAAAGGAAAAATTATATCGATAGGGGAAGAACTTTCTTGGAAACAAGGCTTCTGGTATGAATGT
 GGAATATGCTTCAGACCCTTATTGGGGCGAAAAAATTGCTAGTGTGATGATGAAAAATCAATGAGAAGCTAGGTGGCAAGA
 TTAG

4119.2 (SEQ. ID. NO. 226)

ATGAAAAAAGTATTACAAAAATATTGGGCATGGGCTTTTGTGGTCATCCCCCTTGTGTACAAGCAATTTTCTTCTATGTGCC
 GATGTTTCAAGGAGCCTTTTACAGTTTACCAACTGGACAGGATTGACTTATAACTACAAATTTGTTGGCTTAAACAACCTTTA
 AGCTCCTCTTCATGGATCCAAAATTCATGAATGCGATTGGCTTTACCGCAATCATTGCGATTGCCATGGTGGTTGGTGAGATT
 GCACTCGGGATCTTCATTGCGCGTGTCTTGAATTCTAAAATCAAAGGCCAAACCTTCTTCCGTGCTTGGTCTTCTTCCAGCT
 GTTTTATCTGGTTTGACAGTGGCTTTGATCTTCAAGCAAGTCTTCAACTACGGTCTTCCAGCGATTGGAAATGCCCTTCATATT
 GAATTTTCCAAACCAGTCTTTAGGGACTAAGTGGGGAGCAATCTTTGCGGCTGTCTTTGTCTTCTTTGGCAAGGGGTGGC
 TATGCCCATCATCATCTTCTAGCTGGTTTGAATCTATTCCAAGTACGATTACAGAGGCAGCAAGGATTGATGGTGGCAGTA
 GCAAGCAAGTTTCTGGAAACATTGAATTGCCTTACTGTACCAAGTGTCTCTATGGTCTTTATCCTAGGCCCTAAAAGGTGGG
 CTGACTGCCCTTTGACCAAGTCTTTGCCATGACCGGTGGTGGTCCAAACAATGCCACAACCTCACTTGGGCTCTTGGTTTATAA
 CTATGCCCTTTAAAAACAACCAATTTCGGTTATGCCAATGCCATTGCCGTAATCTTGTCTTCTTAATTGTAGTGATTTCGATCAT
 CCAATTGAGAGTATCTAAGAAATTTGAAATTTAA

4119.3 (SEQ. ID. NO. 227)

ATGATGAAACAAGATGAAAGAAAAAGCCCTGATTGGCAAATACATTCTATTGATTCTAGGATCGGTTCTGATTTTGTAGTCCCGC
 TCCTTGCTACCCTCTTTAGTTTCTTCAAACCCACTAAGGATATTGTAGATAATTTCTTTGGCTTTCCAACCAACTTCACATGGG
 ACAACTTTAGCCGTCTCTTAGCTGATGGGATTGGAGGCTATTATTGGAAGTCTGTGTCATCACTGTCTTGTCTTTACTTGCAG
 TAATGATCTTTATCCCTATGGCAGCCTACTCCATCGCTCGCAATATGAGTAAAAGAAAAAGCCTTTACCATCATGTATACCCTC
 TTAATCTCGGAATCTTCGTACCTTTCCAAGTCATCATGATCCGATTACGGTTATGATGAGTAAACTCGGTTTGGCTAATACC
 TTTGGTTTGTATCTTGCTCTACTTGACCTATGCGATTCCACAGACCCTCTTCTCTATGTTGGCTATATCAAAATCTCGATTCCA
 GAAAGTCTGGATGAAGCAGCAGAGATCGATGGGGCTAATCAATTTACAACCTATTTCCGCATCATCTTCCCAATGATGAAAC
 CGATGTCATGGCACAACCATGATCATCAATGCCCTTTGGTTCTGGAATGACTTCATGTTGCCACTCCTTGTCTTGAACCGGGAT
 TCCAAAATGTGGACTCTGCCCTTGTTCCTAATCAACTACGACAGGCAATTTCAACGACTACGGACCAAGCTTGTGCTCTTTA
 CGTGGTCCGCATTATCAGTATCACCATTGTCTATCTTCTTCCAACGCCATATCATTTAGGAATGAGCAACGGGGCAGTGA
 AGTAA

4119.4 (SEQ. ID. NO. 228)

ATGAAAAAGTATTCTTCAGAAAAATGGGGGAGCATCCGATGCTGCTTCTTTTCTTAGCTATAGTACTGTTATATCCATTCTTGCA
 CAAAATGGATGGGTCTTGTGGCTTCAGTAGGAATGTTTCTATTACTATTTCTTTTGGCACTATCAGTCGATTTTATCCCAT
 AAATCTTTCGATGATTGTCAGTTTGTCTTTGTTGTTAGTGTCTTGTGAGTGTCTTGTGAGTTTGAACATTTCCAAATTTG
 TGAAGAAATTTAACTATGCTTTTCTTTACCCAATATGCAGGTGTGGCATCAGAACCAGGGCAGAAAGTGACCTTCTTTAATCCT
 AATTATTTATGGAATTTTGTGTTTCTGTATTATGATTGCTTTCTATCTGTTTACAACGACCAAGTTGAATTTGGTTGAAAGTA
 TTCTGTGTGATTGCAGGCTTTGTTAATCTCTTTGGTTTGAACCTTTACTCAAAATCGAACTGCCTTTCTCTGATTTATCGTGGA
 GCAATTTATCATCTCTTTACGACTATTAAAACTGGAAGGCCCTTTGGCTTAGTATTGGGGTCTTCGCGATTGGTTGAGTTTTC
 CTCCTTTCTAGTGATTGGGAGTTCGAATGGGTACTTTAGACTCTTCTATGGAAGAACGCATTTCTATCTGGGATGCTGGGAT
 GGCCTTGTTTAAGCAAAATCTTTTGGGGTGAAGGGCCATTGACCTATATGAACTCTTATCCTCGGATACATGCTCCTTATC
 ATGAACATGCCACAGCTCTTTATATTGATACGATTGAGTTACGGAATTTGTGGGACTATTTTATTAGTTTGTCTTCTGTTG
 CTCCTGTTGCTTGTATGATGGATATGAGTCAGGAGTCGGGGAAACGTCGGATTATCGGCCCTTTATCTATCTTTCTTACAGTG
 GTTGCTGTGCACGGAATTTTGTGACTTGGCTCTCTTCTGGATTTCAGTCAGGCTTTATTTTCTTGTCTAGTTATGTGCAGTATTCAT
 TGGAGCATCGAATGTTGGTATCGGACATGACGGATTAA

4120.1 (SEQ. ID. NO. 229)

ATGTCAAAGATGGATGTTTCAGAAAAATCATTGCACCGATGATGAAGTTTGTGAATATGCGTGGCATTATAGCTCTAAAAGATG
 GGATGTTAGCAATTTTGGCATTGACAGTAGTTGGTAGTTTGTCTTGATTATGGGACAATTGCCGTTTCAAGGATTAAATAAG
 AGCATTGCTAGTGTTTTGGAGCTAATTGGACAGAGCCGTTTATGCAAGTATATTACAGGAACCTTTGCTATTATGGGTCTAAT
 TTCTTGTTTTCAATTGCCTATTCTTATGCTAAGAAATAGCGGAGTAGAGGCTTTACCAGCTGGAGTTCTATCTGTATCTGCATT
 CTTTATTTTGTAAAGATCATCTTATATCCCTAAACAAGGTGAGGCGATTGGGGACGCTATTAGTAAAGTTTGGTTTGGAGGCC
 AAGGAATTATCGGTGCTATCATTATAGGTTTGGTAGTGAAGAAATTTATACCTTCTTTATAAAGAGAAAAATTTGTTATTAAAG
 ATGCCAGAACAAAGTCCACAAGCTATTGCCAAACAGTTTGAAGCAATGATTCCAGCATTGTGAATTTTCTTATCTTCTATGAT
 TGTATATATTTAGCGAAGTCAATTGACTAATGGCGGAACATTCATAGAAATGATTTATCTGCTATTCAAGTTCGGTTGCAAG
 GTTTAACTGGATCTTTGTTGATTGGTCTATTGGAATTGCACTTCTTATATCATTTTGTGGTGGTTTGGTGGTCAATCGG
 TAGTAAATGGAGTAGTGACAGCTCTGCTTTTATCTAATCTTGATGCTAATAAAGCTATGTTAGCCTCTGCTAATCTATCATTA
 GAAAATGGTGCACATATTGTTACTCAACAATTTTATGATTCAATTTTAAATCTATCAGGTTTCAGGGATTACGTTTGGTCTTGTA
 GTTGCCATGCTTTTTCAGCAAAAAATCAAAACAATACCAAGCCCTAGGAAAAGTTGCAGCTTTTCCAGCAATATTTAACGTAA
 ATGAGCCAGTTGTATTGTTGATTTCGATTGTGATGAATCCAGTTATGTTTGTACCTTTCAITCTTGTCTGTAATGGGCAAGCTGT
 GATAGTATATGGAGCTATTGCAACAGGTTTTCATGCAGCCATTCTCAGGGGTAACATTGCCTTGGAGTACACCAGCTATTTTAT
 CAGGATTTTGGTGGGTGGATGGCAAGGAGTTATTACTACGCTGGTGATATTAGCGATGTCTACATTGGTTTATTTTCCATTCT
 TTAAGTACAGGATCGTTTACCTTACCAAAATGAAATCAAAACAATCTTAG

4121.2 (SEQ. ID. NO. 230)

ATGAAGAAAAAGGACTTAGTAGACCAACTAGTCTCAGAGATCGAGACGGGGAAAGTCAGGACACTGGGAATATACGGTCAT
GGAGCTTCAGGTAAATCAACCTTTGCACAGGAAATTGTACCAAGCTTTAGATTCTACTACAGTAAATTTGCTAGAGACAGATC
CTTATATCACCTCAGGACGCCATCTGGTAGTACCAAGGACGCGCCAATCAAAAGGTGACAGCCAGTCTGCCAGTGGCGCA
TGAAGTGGAGAGTTTGCAGAGAGATATCCTTgCTTGACGGCGGGTATGGATGTCTTGA

4122.1 (SEQ. ID. NO. 231)

ATGAAGAAAAGATACCTAGTCTTGACAGCTTTGCTAGCCTTGAGTCTAGCAGCTTGTTCAAGAAAAACAAAAATGAAG
ATGGAGAACTAAGACAGAACAGACAGCCAAAGCTGATGGAAACAGTCGGTAGTAAGTCTCAAGGAGCTGCCAGAGAAAA
GCAGAAGTGGTCAATAAAGGTGATTACTACAGCATTCAAGGGAAATACGATGAAATCATCGTAGCCAACAAACACTATCCA
TTGTCTAAAGACTATAATCCAGGGGAAAAATCCAACAGCCAAGGCAGAGTTGGTCAAACCTCATCAAGCGGATGCAAGAGGCA
GGTTTCCTATTAGTGATCATTACAGTGGTTTTAGAAGTTATGAACTCAGACCAAGCTCTATCAAGATTATGTCAACCAAGA
TGGAAAGGCAGCAGCTGACCGTTACTCTGCCCGTCTGGCTATAGCGAACACCAGACAGGCTTGGCCTTTGATGTGATTGGG
ACTGATGGTGATTTGGTGACAGAGAAAAAGCAGCCCAATGGCTCTTGGATCATGCAGCTGATTATGGCTTTGTTGTCCGTTA
TCTCAAAGGCAAGGAAAAAGGAAACAGGCTATATGGCTGAAGAATGGCACCTGCGTTATGTAGGAAAAGAAGCTAAAGAAAT
TGCTGCAAGTGGTCTCAGTTTGGAAAGAATACTATGGCTTTGAAGGCGGAGACTACGTCGATTAA

4125.6 (SEQ. ID. NO. 232)

ATGCGTAAATCTTAATTATTTTGTGCTACCAAGTTTTTTGACCATTTCAAAAAGTCGTTAGCACAGAAAAAGAAGTCGTCTA
TACTTCGAAAGAAATTTATTACCTTTCAATCTGACTTTGGTATTTATTTAGAGAAAAATTAAGTCTCCCATGGTTTATGG
AGAGGTTCCCTGTTTATGCGAATGAAGATTTAGTAGTGAATCTGGGAAATTGACTCCCAAAACAAGTTTCAATAACCGAG
TGGCGCTTAAATAAACAAGGAATTCAGTATTTAAGCTATCAATCATCAATTTATAGCTGCCGACAAACGATTTTATATGA
TCAATCAGAGGTAACCTCCAACAATAAAAAAGTATGGTTAGAATCTGACTTTAACTGTACAATAGTCCTTTATGATTTAAAA
GAAGTGAATCATCCTTATCAGCTTATTCGCAAGTATCAATCGACAAGACCATGTTGTAGAAGGAAGAGAATTTCTACATA
TTGATCAGGCTGGATGGGTAGCTAAAGAATCAACTTCTGAAGAAGATAATCGGATGAGTAAAGTTCAAGAAATGTTATCTGA
AAAAATCAGAAAGATCTTTCTCTATTTATGTTAAGCAACTGACTACTGGAAAAGAAGCTGGTATCAATCAAGATGAAAAAG
ATGTATGACGCCAGCGTTTGAAGCTCTCTTATCTCTATTATACGCAAGAAAAATAAATGAGGGTCTTTATCAGTTAGATAC
GACTGTAAATACGTATCTGCAGTCAATGATTTTCCAGGTTCTTATAAACCAGAGGGAAGTGGTAGTCTTCTAAAAAAGAA
GATAATAAAGAATATCTTTAAAGGATTTAATTACGAAAGTATCAAAAGAATCTGATAATGTAGTCTATAATCTATTGGGAT
ATTACATTTCAAAACCAATCTGATGCCACATTCAAATCCAAGATGTCTGCCATTATGGGAGATGATTGGGATCCAAAAGAAAA
ATTGATTTCTTCTAAGATGGCCGGGAAGTTTATGGAAGCTATTTATAATCAAAATGGATTTGTGCTAGAGTCTTTGACTAAAA
CAGATTTTGATAGTCAGCGAATTTGCCAAAGGTGTTCTGTAAAGTAG
CTCATAAAATGGAGATGCGGATGAATTTAAGCATGATACGGGTGTTGTCTATGCAGATTCTCCATTTATCTTTCTATTTTCA
CTAAGAATTCTGATTATGATACGATTTCCTAAGATAGCCAAGGATGTTTATGAGGTTCTAAAAATGA

4125.7 (SEQ. ID. NO. 233)

ATGAAAAACAAAAATAATGGTTTAAATAAAAATCCTTTTCTATGGTTATTATTTATCTTTTCTGTGACAGGATTCCAGTAT
TTCTATTCTGGGAATAACTCAGGAGGAAGTCAGCAAACTCACTATACTGAGTTGGTACAAGAAATACCGATGGTAATGTAA
AAGAATTAACCTACCAACCAAAATGGTAGTGTTATCGAAGTTCTGGTGTCTATAAAAAATCCTAAAAACAAGTAAAGAAGAAAC
AGGTATTCAGTTTTTACGCCATCTGTTACTAAGGTAGAGAAATTTACCAGCACTATTCTTCTGCAGATACTACCGTATCAG
AATTGCAAAAACCTTGCTACTGACCATAAAGCAGAAGTAACTGTTAAGCATGAAAGTTCAAGTGGTATATGGATTAAATCTACT
CGTATCCATTGTGCCATTGGAAATCTATCTTCTCTCTATTCTATGATGGGAAATATGGGAGGAGGCAATGGCCGTAATC
CAATGAGTTTTGGACGTAGTAAGGCTAAAGCAGCAAAATAAAGAAGATATTAAGTAAGATTTTCAGATGTTGCTGGAGCTGA
GGAAGAAAAACAAGAACTAGTTGAAGTTGTTGAGTTCTTAAAAAGATCCAAAACGATTTCACAAAACCTGGAGCCGTAATCCA
GCAGGTGTTCTTTGGAGGGACCTCCGGGGACAGGTAACCTTTGCTTGCTAAGGCAGTCGCTGGAGAAGCAGGTGTTCCAT
TCTTTAGTATCTCAGGTTCTGACTTTGTAGAAATGTTTGTGCGAGTTGGAGCTAGTCGTGTTGCGTCTCTTTTGGAGGTGCCA
AAAAAGCAGCACCAGCTATCATCTTTATCGATGAAATTTGATGCTTTGGACGTCAACGTGGAGTCGGTCTCGGCGGAGGTAA
TGACGAACGTGAACAACTTGAACCACTTTTGTATGAGATGGATGGTTTGAAGGAAATGAAGGGATTATCGTCATCGCT
GCGACAAACCGTTGAGATGTACTTGACCCTGCCCTTTTGCCTCCAGGACGTTTGTATAGAAAAGTATTGGTTGGTCGCTCTGA
TGTTAAAGGTGCTGAAGCAATCTTGAAAGTTACCGCTAAGAATAAGC
CTTTAGCAGAACTGTTGATTGAAATTAGTGGCTCAACAAACCTCAGGCTTTGTTGGTGTGCTGATTTAGAGAATGTCTTGAAT
GAAGCAGCTTTAGTTGCTGCTCGTCGCAATAAATCGATAATTGATGCTTCAGATATTGATGAAGCAGAAGATAGAGTTATTG
CTGGACCTTCTAAGAAAGATAAGACAGTTTCAAAAAAGAACGAGAATTGGTTGCTTACCATGAGGCAGGACATACCATTGT
TGGTCTAGTCTTGTGCAATGCTCGCGTTGTCCATAAGGTTACAATTGTACCACGCGCGCTGCAGCGGATACATGATTGCAC
TTCCTAAAGAGGATCAAAATGCTTCTATCTAAAGAAGATATGAAAGAGCAATTTGGCTGGCTTAATGGGTGGACGTGTAGCTGA
AGAAATTATCTTTAATGTCCAAACCAAGGAGCTTCAAACGACTTTGAACAAGCGACACAAATGGCACGTGCAATGGTTACA
GAGTACGGTATGAGTGAAAAAATTTGGCCAGTACAATATGAAGGAAACCATGCTATGCTTGGTGACAGAGTCTCAAAAAAT
CAATTTCAAGAACCAACAGCTTATGAAATTGATGAAGAGGTTTCGTTTATTATTTAAATGAGGCACGAAATAAAGCTGCTGAAAT
TATTCAGTCAAAATCGTGAAACTCACAAGTTAATTGCAGAAGCATTATTGAAATACGAAACATTGGATAGTACACAAATTA
GCTCTTTACGAAACAGGAAAGATGCCTGAAGCAGTAGAAGAGGAATCTCATGCACTATCCTATGATGAAGTAAAGTCAAAA
ATGAATGACGAAAAATAA

4125.10 (SEQ. ID. NO. 234)

ATGAGGGAACGAGATTTTTTAAATCATTTTCTCAAGAAGGGATATTTCAAAAAAGCATGCTAAGGCGGTTCTAGCTCTTTCTGG
TGGATTAGATTCATGTTCTATTAAAGGTATTGTCTACTTATCAAAAAGAGTTAGAGATTGAATTCTAGCTCATGTGA
ATCATAAGCAGAGAAATTGAATCAGATTGGGAAGAAAAAGGAATTAAGGAAGTTGGCTGCTGAAGCAGAGCTTCTATTTATAT
CAGCAATTTTTCAGGAGAAATTTTCAAGAGCGCGTGCACGAAATTTTCGTTATGATTTTTTCAAGAGGTCATGAAAAAGACAG
GTGCGACAGCTTATGCTACTGCCACCATGCTGATGATCAGGTGGAAACGATTTTTATGCGCTTGATTCGAGGAACCTCGTTG
CGCTACTCAGGAATTAAGGAGAAAGCAAGTAGTCGGAGAGATAGAAATCATTGTCCTCTTCTGCAATTTTCAGAAAAAG
ACTTTCCATCAATTTTCACTTTGAAGATACATCAATCAGGAGAATCATTATTTTCGAAATCGTATTCGAAATTTCTACTTAC
CAGAATTGGAAGAAAAATCCTCGATTAGGGATGCAATCTTAGGCAATGGCAATGAAATTTAGATTATGATTTTGGCAAT
AGCTGAATTATCTAACAATATTAATGTGGAAGATTACAGCAGTTATTTCTTACTCTGAGTCTACACAAAGAGTTTACTTCT
AAACTTATCTGAATCGTTTTCAGATTGAAATCTTACAAAGCTCAGTTTGTGTAAGTTCAGCAGATTTTAAAAATCTAAAAGC
CAGTATCGTATCCGATTAAAAATGGCTATGAATTGATAAAGAGTACCAACAGTTTCAGATTTGTAATTCAGTCCGACAGG
CTGATGAAAAGGAAGATGAACCTGTGTACACTATCAAAATCAGGTAGCTTATCAAGGATATTTATTTCTTTTGGACTTCCA

TTAGAAGGTGAATTAATTCAACAAATACCTGTTTCACGTGAAACATCCATACACATTTCGTCATCGAAAAACAGGAGATGTTT
TGATTAATAAATGGGCATAGAAAAAACTCAGACGTTTATTTATTG
ATTTGAAAAATCCCTATGGAAAAAGAGAACTCTGCTCTTATTATTGAGCAATTTGGTGAAATTTGTCTCAATTTTGGGAATTGCG
ACCAATAATTTGAGTAAAAAAACGAAAAATGATATAATGAACACTGTACTTTATATAGAAAAAATAGATAGGTAA

4126.1 (SEQ. ID. NO. 235)

ATGAAGCGTCTTCTCTTTAGTTAGAATGGTTATTTCCATCTTTCTGGTCTTTCTCATTCTCCTAGCTCTGGTTGGAACTTTCT
ACTATCAATCAAGTCTTTCAGCCATTGAGGCCACCATTGAGGGCAACAGCCAAACGACCATCAGCCAGACTAGCCACTTTAT
TCAGTCTTATATCAAAAACTAGAAACCACTCGACTGGTTTGACCCAGCAGACGGATGTTCTGGCCTATGCTGAGAATCCC
AGTCAAGACAAGGTGCGAGGAATCCGAGATTTGTTTTGACCATCTTGAAGTCAGATAAGGACTTGAAAACCTGTTGTGCTGG
TGACCAAAATCTGGTCAGGTCAATTTCTACAGATGACAGTGTGCAGATGAAAACCTCCTCTGATATGATGGCTGAGGATTGGTA
CCAAAAGGCCATTTCATCAGGGAGCTATGCCTGTTTTGACTCCAGCTCGTAAATCAGATAGTCAGTGGGTCAATTTCTGCACTC
AAGAAGTTGTTGATGCAAGGGAGCCAACTTGGTGTGCTTCGTTTGGATATTTCTTATGAAAACCTCTGGAAGCCTATCTCAAT
CAACTCCAGTTGGGGCAGCAGGGCTTGCCTTCATTATCAATGAAAACCATGAATTTGTCTACCATCCTCAACACACAGTTTA
TAGTTCGTCTAGCAAAATGGAGGCTATGAAACCCTACATCGATACAGGTCAGGGTTATACTCCTGGTCACAAATCCTACGTC
AGTCAAGAGAAGATTGCAAGGAAGTATTGGACGGTCTTGGCGTGTGCATCATTGGAAAAAGTTAGACCAGGTTCCGGAGTCAGC
TCTTGTGGACCTTGTCTGGGGCCAGTGTACATCTCTTCTGTCTGTCTGTCTAGTGTGGTTCAGTCTTAAACGCTGGATTG
CTCCTTTGAAGGATTTGAGAGAAACCATGTTGGAAATTTGCTTCTGGTGTCTCAAAATCTTCGTGCCAAGGAAGTTGGTGCTAT
GAAGTGAAGAGAAGTAACTCGCCAATTTAATGCTATGTTGGATCAGATTGATCAGTTGATGGTAGCTATTCGTAGCCAGGAAG
AAACGACCCGTCAGTACCAACTTCAAGCCCTTTCAGGCCAGATTAATCCACATTTCTCTATAACACTTTGGACACCATCATC
TGGATGGCTGAATTTTCATGATAGTCAGCGAGTGGTGCAGGTGACCAAGTCCTTGGCAACCTATTTCCGCTTGGCGCTCAATCA
AGGCAAGGACTTGATTTGTCTCTCTGACGAAATCAATCATGTCCGCCAGTATCTCTTTATCCAGAAACAACGCTATGGAGATA
AGCTGGAATACGAAATTAATGAAAATGTTGCCCTTTGATAATTTAGTCTTACCCAAGCTGGTCTCAACCCCTTTGTAGAAAAAT
GCTCTTTACCATGGCAATTAAGGAAAAAGGAAGGTGAGGGCCATATTAACCTTTCTGTCCAGAAACAGGATTCCGGGATTGGTCA
TCCGATTGAGGATGATGGCGTTGGCTTCCAAGATGCTGGTGATAGTAGTCAAAGTCAAACGCTGGGGGAGTTGGTCT
TCAAAATGTCGATCAACGGCTCAAACCTTCATTTTGGAGCCAATTACCATATGAAGATTGATTCTAGACCCCCAAAAAGGGACG
AAAGTTGAAATATATATAAATAGAATAGAACTAGCTAA

4126.7 (SEQ. ID. NO. 236)

ATGAAGCGTCTTCTCTTTAGTTAGAATGGTTATTTCCATCTTTCTGGTCTTTCTCATTCTCCTAGCTCTGGTTGGAACTTTCT
ACTATCAATCAAGTCTTTCAGCCATTGAGGCCACCATTGAGGGCAACAGCCAAACGACCATCAGCCAGACTAGCCACTTTAT
TCAGTCTTATATCAAAAACTAGAAACCACTCGACTGGTTTGACCCAGCAGACGGATGTTCTGGCCTATGCTGAGAATCCC
AGTCAAGACAAGGTGCGAGGAATCCGAGATTTGTTTTGACCATCTTGAAGTCAGATAAGGACTTGAAAACCTGTTGTGCTGG
TGACCAAAATCTGGTCAGGTCAATTTCTACAGATGACAGTGTGCAGATGAAAACCTCCTCTGATATGATGGCTGAGGATTGGTA
CCAAAAGGCCATTTCATCAGGGAGCTATGCCTGTTTTGACTCCAGCTCGTAAATCAGATAGTCAGTGGGTCAATTTCTGCACTC
AAGAAGTTGTTGATGCAAGGGAGCCAACTTGGTGTGCTTCGTTTGGATATTTCTTATGAAAACCTCTGGAAGCCTATCTCAAT
CAACTCCAGTTGGGGCAGCAGGGCTTTGCCCTTCATTATCAATGAAAACCATGAATTTGTCTACCATCCTCAACACACAGTTTA
TAGTTCGTCTAGCAAAATGGAGGCTATGAAACCCTACATCGATACAGGTCAGGGTTATACTCCTGGTCACAAATCCTACGTC
AGTCAAGAGAAGATTGCAAGGAAGTATTGGACGGTCTTGGCGTGTGCATCATTGGAAAAAGTTAGACCAGGTTCCGGAGTCAGC
TCTTGTGGACCTTGTCTGGGGCCAGTGTACATCTCTTCTGTCTGTCTGTCTAGTGTGGTTCAGTCTTAAACGCTGGATTG
CTCCTTTGAAGGATTTGAGAGAAACCATGTTGGAAATTTGCTTCTGGTGTCTCAAAATCTTCGTGCCAAGGAAGTTGGTGCCTAT
GAAGTGAAGAGAAGTAACTCGCCAATTTAATGCTATGTTGGATCAGATTGATCAGTTGATGGTAGCTATTCGTAGCCAGGAAG
AAACGACCCGTCAGTACCAACTTCAAGCCCTTTCAGGCCAGATTAATCCACATTTCTCTATAACACTTTGGACACCATCATC
TGGATGGCTGAATTTTCATGATAGTCAGCGAGTGGTGCAGGTGACCAAGTCCTTGGCAACCTATTTCCGCTTGGCGCTCAATCA
AGGCAAGGACTTGATTTGTCTCTCTGACGAAATCAATCATGTCCGCCAGTATCTCTTTATCCAGAAACAACGCTATGGAGATA
AGCTGGAATACGAAATTAATGAAAATGTTGCCCTTTGATAATTTAGTCTTACCCAAGCTGGTCTCAACCCCTTTGTAGAAAAAT
GCTCTTTACCATGGCAATTAAGGAAAAAGGAAGGTGAGGGCCATATTAACCTTTCTGTCCAGAAACAGGATTCCGGGATTGGTCA
TCCGATTGAGGATGATGGCGTTGGCTTCCAAGATGCTGGTGATAGTAGTCAAAGTCAAACGCTGGGGGAGTTGGTCT
TCAAAATGTCGATCAACGGCTCAAACCTTCATTTTGGAGCCAATTACCATATGAAGATTGATTCTAGACCCCCAAAAAGGGACG
AAAGTTGAAATATATATAAATAGAATAGAACTAGCTAA

4127.4 (SEQ. ID. NO. 237)

ATGTTTTTTAAATTAAGAGAAGCTCTTAAAGTCAAGCAGGTTTCGATCAAAAAATTTTATTTACAATTTTTATCGTTTTGGTC
TTTCGATCGGAAGTACGATTACAGTTCCTGGTGTGAATGCCAATAGCTTGAATGCTTTAAGTGGATTATCCTTCTTAAACAT
GTTGAGCTTGGTGTGCGGGGAATGCCCTAAAAAACTTTTCGATTTTTGCCCTAGGAGTTAGTCCCTATATCACCGCTTCTATTGT
TGTCAACTCTTGCAATGGATATTTTACCCAAGTTTGTAGAGTGGGGTAAACAAGGGGAAGTAGGTGCAAGAAAAATTTGAAT
CAAGCTACTCGTTATATGCTCTAGTTCCTGCTTTTGTGCAATCTATCGGGATTACAGCTGGTTTTTAATACCTTGGCTGGAGCT
CAATTGATTAAAACTGCTTTAACTCCACAAGTTTTTCTGACGATTGGTATCATCTTAACAGCTGGTAGTATGATTGTCACTTGG
TTGGGTGAGCAAAATACAGATAAGGGATACGGAACGGTGTTCATGATTATCTTTGCCGGGATTGTTTCTCAATTTCCAGA
GATGATTACAGGCATCTATGTGGACTACTTTGTGAACGTCCCAAGTAGCCGATACATCTCATCTATTTTCGTAATCATTTT
GATTATTACTGTATTGTTGATTATTTACTTTACAACCTTATGTTTCAACAAGCAGAATACAAAAATCCAAATCCAATATACTAAGG
TTGCACAAGGTGCTCCATCTAGCTCTTACCTTCCGTTAAAAGTAAACCCTGCTGGAGTTATCCCTGTTATCTTTGCCAGTTCGA
TTACTGCAGCGCTGCGGCTATTCTTCAGTTTTTGAAGTCCACAGGTCATGATTGGGCTTGGGTAAGGGTAGCACAAGAGATG
TTGGCAACTACTTCTCCAAGTGGTATTGCCATGATGCTTTGTGATTATCTCTTACATTCTTCTTACATTCTTCTGATACAGATA
ATCCTGAAAAAGCAGACAGAGCTCAAAAGAGTGGTGCTATATCCATGGAGTTCGTCTGGTAAAGGTACAGAAGAATA
TATGTCTAAACTTCTTCGTCTGTGCAACTGTTGGTTCCTCTCTCTTGGTGTGA

4127.5 (SEQ. ID. NO. 238)

ATGGATATTAGACAAGTTACTGAAACCATCGCCATGATTGAGGAGCAAAACCTTCGATATTAGAACCATTACCATGGGGATT
CTCTTTTGGACTGTATCGATCCAGATATCAATCGTGTGCGGAGAAAACTCTACAAAAAATTACGACAAAGCGCGCTAATTT
AGTAGTGTGGTGATGAAATGCGGCTGAGTTGGGAATTTCTATCGTTAATAAGCGTGTATCGGTGACACCTATTTCTCTGA
TTGGGGCAGCGACAGATGCGACGGACTACGTGGTTCTGGCAAAAGCGCTTGATAAGGCTGCGAAAGAGATTGGTGTGGACT
TTATTGGTGGTTTTTCTGCCCTAGTACAAAAAGGTTATCAAAAGGGAGATGAGATTCTCATCAATTCCATTCTCGCGCTTTG

GCTGAGACGGATAAGGTCTGCTCGTCAGTCAATATCGGGCTCAACCAAGTCTGGTATTAATATGACGGCTGTGGCAGATATGG
 GACGAATTATCAAGGAAACAGCAAACTCTTCAGATATGGGAGTGGCCAGTTGGTTGTATTGCTAATGCTGTTGAGGACAA
 TCCATTTATGGCGGGTGCCTTTTCATGGTGTGGGGAAGCAGATGTTATCATCAATGTCCGAGTTTCTGGTCTGGTGTGTGA
 AACGTGCTTTGGAAAAAGTTCTGTTGGACAGAGCTTTGTATGATAGCCGAAACAGTTAAGAAAACTGCCTTTAAAACTCACTCG
 TATCGGTCAATTGGTTGGTCAAAATGGCCAGTGAGAGACTGGGTGTGGAGTTTGGTATTGTGGACTTGAGTTTGGCACCACCC
 CCTGCGGTTGGAGACTCTGTGGCAGTGTCTTGGAGAAATGGGGCTAGAAACAGTTGGCACGCATGGAACGACGGCTGCCT
 TGGCCCTCTTGAACGACCAAGTTAAAAAGGGTGGAGTGATGGCCTGCAACCAAGTCCGGTGGTTTATCTGGTGCCTTTATCCCT
 GTTCTGAGGATGAAGGAATGATTGCTGCAGTGCAAAATGGCTCTCTTAATTTAGAAAACTAGAAGGATATGACGGCTAAT
 GTTCTGTTGGATTGGATATGATTGCCATCCAGAGATACGCTGTGAAACTATTGCGGCTATGATTGCGGATGAAGCAGC
 AATCGGTGTTATCAACATGAAAACAACAGCTGTTCGTATCATTCCCAAAGGAAAAAGGCGATATGATTGAGTTTGGTGGT
 CTATTAGGAAGTGCACCCGTTATGAAGGTTAATGGGGCTTCGTCTGTCGACTTCTCTCGCGGTGGACAAATCCAGCACC
 AATTCATAGTTTAAAAATTAA

4128.1 (SEQ. ID. NO. 239)

ATGACACAGATTATTGATGGGAAAGCTTTAGCGGCCAAATTGCAGGGCAGTTGGCTGAAAAGACTGCAAAATTAAGGAA
 GAAACAGGTCTAGTGCTGGTTTGGTAGTGATTGTTGGTTGGGACAATCCAGCCAGCCAAGTCTACGTTGCAACAAGGAGA
 GGTGAGCCCTTGGCGGTGGTTTCCGTAGCGAAGTAGTACGGGTTCCAGAGACCAATTAAGAGGAATTGTAGACCTGAT
 TGCTAAATACAATCAGGATCCAGCTTGGCATGGGATTTTGGTTCAGTTGCCATTACCAAAACACATTGATGAAGAGGCGGTT
 CTATTGGCTATTGACCCAGAAAAGGATGTGGATGGTTTCCCTCTAAACATGGGGCGTCTTGGTCTGGTCACTCAGTCAT
 GATTCCTTCGACACCGGCAGGAATTATGGAATGTTCCATGAATATGGGATTGACTTGAAGGTAATAATGCAGTCGTCATC
 GGTGATCCAAATATTGTCGGAAAACCTATGGCCAGCTTCTTTTGGCAAGAATGCAACAGTAACCTTGACTCACTACGCTAC
 TCATAATCTTTCAAGGTGGCTGCAAAAGCAGATATCTGTTGTTGCAATCGGTGCTGCCAAGTTTGTGACTGCTGACTTTG
 TCAAAACAGGTGCGGTGACTTGGAGCTTGGGATGAACCGCGATGAAAATGGTAAGCTCTGTGGGGATGTTGATTATGAGGC
 GGTGCCCCACTTGCTAGCCACATTACGCCAGTCCCTGGAGGTGTCGGTCTATGACCATTACTATGCTGATGGAGCAACCT
 ATCAGGCAGCACTTAGGACATTGGATAGAAAAATA

4128.2 (SEQ. ID. NO. 240)

ATGTCTAAATTTAATCGTATTCAATTTGGTGGTACTGGATTCTGTAGGAATCGGTGCAGCACCAGATGCTAATAACTTTGTCAA
 TGCAGGGGTTCCAGATGGAGCTTCTGACACACTGGGACACATTTCAAAAACAGTTGGTTTGAATGTCCCAACATGGCTAAA
 ATAGGCTTTGGAAATATTCCTCGTGAAACTCCTTTAGACTGTGGCAAGCAATCCAACTGGGATATGCAACAAAAAT
 TAGAGGAAGTATCTCTTGGTAAGGATACTATGACTGGACACTGGGAAATCATGGGACTCAACATTACTGAGCCTTTGATAC
 TTTCTGGAACGGATTCCAGAAAGAAATCCTGACAAAAATCGAAGAAATCTCAGGACGCAAGGTTATTCTGTAAGCCAAACAA
 CCTTATTCAGGAACGGCTGTTATCTATGATTTTGGACCACGTCAGATGGAACCTGGAGAGTTGATTATCTATACCTCAGTCAT
 CCCTGTTTTCAGATTGCTGCCACGAAGACATTATTCCTTTGGATGAATTGTACCGTATCTGTGAATACGCTCGTTCCGATTAC
 CCTTGAGCGTCTGCCCTTCTTGGTGCATCATTGCTCGCCCTTATGTAGGTGAACCAAGGTAACCTTCACTCGTACGGCAACCC
 GTCGTGACTTGGCTGTATCTCCATTTTCCCAACTGTTTGGATAAATTGAATGAGGCTGGTATCGTACTTATGCTGTGGGTAA
 AAATCAACGATATCTTTAACCGGTGCTGGTATCAACCATGACATGGGTCAACAACAGTCAAATAGTCAATGGAAATTGATACACT
 ATTGAAGACTATGGGACTTGCTGAGTTTGAAGGATTCTCATTACAAACCTAGTTGACTTTGATGCCCTTTACGGCCATC
 GTCGTAATGCTCAGGTTACCGTATGCTTGCATGAGTTGATGAACGCTTACCTGAAATTTATCGCAGCTATGAGAGAGAAT
 GACCTTCTCTTGGTACGCGACCATGGAAATGACCCACGATGCAAGAACGGATCACACTCGGGAATATATTCATTGTT
 GGCCTATAGCCCTGCCTTTAAAGGAAATGGTCTCATTCCAGTAGGACATTTTGCAGATATTTACGCGACTGTTGCCGATAACT
 TTGGTGTGGAACCTGCTATGATTGGGGAAAGTTTCTTAGATAAATTGGTATAA

4129.2 (SEQ. ID. NO. 241)

ATGTTTATTTCCATCAGTGCTGGAATTGTGACATTTTACTAACTTTAGTAGAAAATCCGGCCCTTTATCCAATTTTATAGAAAG
 GCGCAAAATTACAGCCAGCAGATGCTAGGATGTCAAAACAGCATAGGCAAAAAGCTGGGACTCCTACAAATGGGAGGTTTG
 GTTTCTTGGATTCTGTTTGGTTGCTTCTTTTCCGCTATTAGTAGCAATTCAGCAATAATGTGGGAATTGATTTGT
 TCATCTTGGTCTTGTATGGCTTGGTCCGATTTTATAGTAGCTTTCTCAAGGTCTTTTGTAAAAATCAATGAGGGGCTTAATCCTA
 AGCAAAAATTAGCTCTTCAGCTTCTAGGTGGAGTTATCTTCTATCTTTCTATGAGCGCGGTGGCGATATCCTGTCTGCTTTG
 GTTATCCAGTTCAATTTGGGATTTTCTATATTTTCTTCGCTCTTTCTGGCTAGTCCGTTTTCAAACGCGAGTAACTTGACAGA
 CGGTGTTGACGGTTTACGTAGTATTTCCGTTGTGATTGTTGCTGGCATTTGGAGTTATTGCCATATGTGCAAGGTGATGAG
 ATATTCTCTAGTGATTCTTGCCATGATTGGTGGTTTGTCTCGGTTTCTTCATCTTTAACCATAGCCTGCCAAGGTCTTTATGG
 GTGATGTGGGAAGTTTGGCCCTAGGTGGGATGCTGGCAGCTATCTCTATGGCTCTCCACCAAGAATGGACTCTCTTGATTATC
 GGAATTGTGTATGTTTGAACAACTTCTGTTATGATGCAAGTATGTTTCAAACTGACAGGTGGTAAACGTATTTTCCG
 TATGACGCTGTACATCACCATTTTGGAGCTTGGGGGATGTCTGGTAAAGGAAATCCTTGGAGCGAGTGGAAGGTTGACTCT
 TCTTTTGGGGAGTGGGACTTCTAGCAAGTCTCTGACCCTAGCAATTTTATATTTGATGTAA

4133.1 (SEQ. ID. NO. 242)

TTGTTTAAAGAAAAATAAAGACATTCTTAATATTGCATTGCCAGCTATGGGTGAAAACCTTTTTCAGATGCTAATGGGAATGGT
 GGACAGTTATTGGTTGCTCATTTAGGATTGATAGCTATTTACGGGGTTTCAGTAGCTGGTAATATTATCACCATTTATCAGG
 CGATTTTCATCGCTCTGGGAGCTGCTATTTCCAGTGTTATTTCAAAAAGCATAGGGCAGAAAGACCAAGTCAAGTTGGCCTAT
 CATGTGACTGAGGCGTTGAAGATTACCTTACTATTAAGTTTCCCTTTAGGATTTTGTCCATCTTCGCTGGGAAAGAGATGAT
 AGGACTTTTGGGGACGGAGAGGGATGTAGCTGAGAGTGGTGGACTGTATCTATCTTTGGTAGGCGGATCGATTGTTCTCTTA
 GGTTTAATGACTAGTCTAGGAGCCTTGATTCTGTCAACGCATAATCCACGCTCTGCCTCTCTATGTTAGTTTATCCAATGCC
 TTGAATATCTTTTCAAGTCTAGCTATTTTGTCTGGATATGGGATAGCTGGTGTGCTTGGGGGACAATTTGTCTCGT
 TTGGTTGGTCTTGTGATTTTGTGGTCACAATTAACCTGCCTTATGGGAAGCCAACCTTTTGGTTTATAGATAAGGAAGTGTGAC
 CTTGGCTTTACCAGCAGCTGGAGAGCGACTTATGATGAGGGCTGGAGATGTAGTATCATTGCCCTTGGTCTGTTCTTTTGGGA
 CGGAGGCAGTTGCTGGGAATGCAATCGGAGAAGTCTTGACCCAGTTTAACTATATGCTGCTTTGGCGTCTGCTACGGCAAC
 GGTGATGTTTGGCCGAGCAAGTTGGAGAGGATGATTGCAAAAAGAGTTGCTAGTTTGAAGTAAACAAACCTTTGCTTCT
 CTGTTCTCATGTTGCCCTGTCTTTAGTATATATGCTTGGGTGTACCATTAACTCATCTCTATACGACTGATTCTCTAGCG
 GTGGAGGCTAGTGTCTAGTGACACTGTTTCACTACTGGGACCCCTATGACGACAGGAACAGTCACTATACGGCAGTCTG
 GCAGGAGTAAAGAAATGACGCTCCCTTTTATGCGACAAGTATGGAATGTGGTGTATCCGCAATTTGGGACAGGATATCTG
 ATGGGGATTGTGCTTGGTTGGGGCTTGCCTGGTATTTGGGCAGGGTCTCTCTTGGATAATGGTTTTGCTGGTTATTTCTACCG
 TATCGTTACCAGCGCTATATGAGCTTGAAAGGATAG

4135.2 (SEQ. ID. NO. 243)

ATGCAAACCTCAAGAAAAACACTCGCAAGCAGCCGTTCTTGGCTTGCAGCACTTACTAGCCATGTACTCAGGATCTATCCTGG
 TTCCCATCATGATTGCGACAGCCCTTGGCTATTAGCTGAGCAGTTGACCTACCTGATTTCTACAGATATCTTCATGTGTGGG
 GTGGCAACCTTCTCCTCAACTCCAACCTCAACAACTACTTTGGGATTGGACTCCCAGTCGTTCTTGGAGTTGCATTCCAGTCGGT
 CGCTCCCTTGATTGATTGGGCAAGCCATGGTAGTGCGCTATGTTTGGTGCCCTTATCGCATCTGGGATTTACGTGGTTCT
 TTGTTTCAGGCATCTTCTCAAAAGTAGCCAATCTCTTCCCATCTATCGTAACAGGATCTGTTATTACCACGATTGGTTAACTT
 TGATCCCTGTGCGTATTGGAAATATGGGAAATAACGTTCCAGAGCCAACCTGGTCAAAAGTCTCTTGGCTTGCAGCTATTACTGTT
 CTGATTATCCTCTTGATCAACATCTTTACCAAAGGATTTATCAAGTCTATCTCTATTTTGGATTGGTCTGGTTGTTGGAATGCC
 ATTGCTGCTACTATGGGCTTGGTGGACTTCTCTCTGTTGCGGTAGCTCCACTTGTCCATGTCCCAACTCCACTCTACTTTGGG
 ATGCCAACCTTTGAAATCTCATCTATTGTCTATGATGTGTATCATCGCAACGGTGTCTATGGTTGAGTCAACTGGTGTATCTG
 GCCTTGTCTGATATCACAAGGATCCAATCGACAGCAGCGCCTTCGCAACGGATACCGCGCAGAAGGTTTGGCCGTACTTC
 TCGGAGGAATCTTTAACACCTTCCCTTACACCGGATTTTCAAAAAACGTTGGTTTGGTTAAATTTGTCAGGCATCAAAAAACGC
 CTGCCAATCTACTACGCAGCTGGTTTCTTGGTCTCTTGGACTGCTTCTAAGTTTGGCGCCCTTGGCCAAATCATTCCAAGC
 TCCGTCTCGGTGGTGCCATGCTGGTAATGTTTGGTTTGTATCAATTCAAGGGATGCAAAATCCTCGCCCGTGTGACTTTGCT
 AACATGAACACAACCTTCTTATCGCAGCTGTTTCAATCGCTGCAGGTGTCGGTCTCAACAACAGTAATCTCTTTGTCAGCAT
 GCCGACGCCTTCCAATGTTCTTCTCAACCGGAATCGCTAGCCAGCCTACTCGCTATTGTCCTCAATGCCGATTAAATC
 ATAAAAAGAAATAA

4136.2 (SEQ. ID. NO. 244)

ATGAAAGATAGATAAAAAAGAAATTTTACAAGACAAGGGAAGGTGACTGTTAATGATTGGCTCAGGCTTTGGGAAAAGAC
 AGTTCCAAGGATTTTCGTGAGTTGATTAAAACCTTGTCTTAATGGAAAGAAAGCACCAAATTCGTTTGAAGAAGATGGTA
 GTCTGACATTAGAAATTAAGAAAAACATGAGATTACCTCAAGGGGATTTTCATGCCCATAAAAATGGCTTTGGCTTTGTT
 AGTCTGGAAGGCGAGGAGGACGACCTTTTGTAGGGAATAATGATGTCAACTATGCTATTGATGGTGATACCGTCGAGGTAG
 TGATTAAGAAAGTCGCTGACCGCAATAAGGGAAACAGCAGCAGAAGCCAAAATTATTGATATCCTAGAACACAGTTTGACAA
 CAGTTGTGCGGCAAAATCGTTCTGGATCAGGAAAAACCTAAGTATGCTGGCTATATTCGTTCAAAAAATCAGAAAAATCAGTCA
 ACCGATTTATGTTAAGAAACAGCCCTAAAAATTAGAAGAACAGAAGTTCTCAAAGTCTTTATCGATAAAATACCCAAGCAAG
 AAACATGATTTCTTTGTGCGGAGTGTTCTCGATGTAGTGGGACACTCAACGGATGTGCGAATTGATGTTCTTGAGGTCTTGGA
 ATCAATGGACATTGTATCCGAGTTTCCAGAAGCTGTTGTTAAGGAAGCAGAAAGTGTGCTGATGCTCCGTCTCAAAAGGAT
 ATGGAAGGTGCTGATCTAAGAGATGAAATACCTTTACCATTGACGGGTGCGGATGCCAAGGACTTGGACGATGCAAGTGC
 ATATACAGGCTCTGAAAAATGGCAATCTGGAGTTTGGGTTTCAATCGCAGATGTTTCTTATTATGTGACCGAGGGGTCTGCC
 CTTGACAAGGAAGCCCTTAACCGTGCAGCTTCTGTTTACGTGACAGACCGAGTGGTGCCAATGCTTCCAGAACGACTATCAA
 ATGGCATCTGCTCTCTCAATCCCAAGTTGACCGCTGACCCAGTCTGCTATTAT
 GGAGATTGATAAAACATGGTGTGTTGGTCAACTATACCATTACACAAACAGTTATCAAGACCAGTTTTCTGATGACCTATAGC
 GATGTCAATGATATCCTAGCTGGCGATGAAGAAAAAGAGAAAAAATATCAAAAAATTGATCAAGTATCGAACTCATGGCC
 AAGCTTCATGAACTTTAGAAAACATGCGTGTGAAACGTGGAGCTCTCAATTTTGATACCAATGAAGCGAAGATTTTAGTGG
 ATAAACAAGGTAAGCCTGTTGATATCGTTCTTCGGCAGCGTGGTATTGCCGAGCGGATGATTGAGTCTTTATGTTGATGGCT
 AATGAAACAGTTGCCGAACATTTACGCAAGTTGGATTGCTTTTATCTATCGAATTCACGAGGAGCCTAAGGCTGAAAAGG
 TTCAGAAGTTTATTGATTATGCTTCGAGTTTGGCTTGGCATTATGGAAGTCCAGTGAGATTAGTCAGGAGGCACTTCAA
 GACATCATGCGTGTGTTGAGGAGAACCTTATGCAAGTGTATTGTCCATGATGCTTCTCGCTCTATGCAAGCGGCTCGTTA
 TTCGGAGCACATACGGCCACTATGGACTAGCTGACTATTATCACTACTTTACCAGTCCAATTGCTGTTATCCAGACC
 TTCTTGTTCACCGTATGATTTCGGGATTACGGCCGTTCTAAGGAAATAGCAGAGCATTTTGAACAAGTGATTCCAGAGATTGCG
 ACCCAGTCTTCCAACCGTGAACGTGCTGCCATAGAAGCTGACCGTGAAGTCAAGCCATGAAAAAGGCTGAGTATATGGAA
 GAATACGTGGGTGAAGAGATGATGACAGTTGTATCAAGTATTGTCAAAATTCGGTCTCTTTGTGCAATTGCCAAACACAGTTGA
 AGGCTTGATTACACTACTAATCTGCTGAATTTATCACTTTCAATGAGCGTGAATTGACTCTTCGTGGAGAAAAATCAGGTA
 TCACTTTCCGAGTGGGTGAGCAGATCCGTATCCGTGTTGAAAGAGCGGATAAAATGACTGGAGAGATTGATTTTTCATTCTGA
 CCTAGTGAGTTTGATGTGATTGAAAAAGGCTTGAACAGTCTAGTCGT
 AGTGGCAGAGGGCGTATTCAAATCGTCTGCGTATGAAAGAAAGGAAAGAAATCAGGACGCTCAAATGATAAGCGT
 AAGCATTCACAAAAAGACAAGAAAGAAAGAAAGAAACCTTTTACAAGGAAGTAGCTAAGAAAGGAGCCAAGCATGG
 CAAAGGGCGAGGGAAAGGTGCTGCGACAAAAATAA

4137.2 (SEQ. ID. NO. 245)

ATGGGCACAACAGGATTTACAATAATTGACTTAATTATCTTGATTGTTTATTTACTTGGCGTGTGGTTGCAGGTATCTATTTC
 TCTAAAAAAGAGATGAAAGGAAAAAGAGTTCTTTAAAGGAGATGGTTCGGTTCTTGGTATGTTACTTCGGTATCCATTTTTC
 CACAATGCTCAGTCCGATTTCTTCTTGGGACTCGCTGGTAGCTCTTATGCAAGTAGCTGGATTTTATGGTTTATGATTAGG
 GATGGTAGTAGCTATTCCACTGACAATTCGTTTATCTTACCTATCTTGCACGGATAGACATCGATACGGCATATGATTACTT
 GGATAAACGTTTAAATTCTAAAGCACTTCGTATTATTTACGCACTCTTGTTTATTTATCAATTGGGACGTATGTCTATCAT
 TATGTACCTCCCATCAGCTGGTTTATCAGTATTGACAGGAATTGACATCAATATTTTGGATTATTTGATGGGTGTAGTTGCAAT
 TGTTTATCTTATACTGGTGGTCTAAAAATCCGTATTATGGACAGACTTTAATCAAGGTGTGATTCTGATTAGTGGTGTCTGTTT
 AGCTTTATTTGTAAGTATTGCTAATATTTAAAGGTGGCTTTGGTGCAGTAGCAGAAACATTAGCAAACGGGAAATTCCTTGCTG
 CAAATGAAAAACITTTTCGATCCTAAGCTTGTCTTCAAACTCCATCTTTTAAATTGTGATGGGTTCAGGCTTTACAATCTTGCTT
 CCTATGCTTCATCTCAAGATTGGTTCAACGTTTACTACAACAAAAATTAAGAACTTAATAAGATGTTGTTTCAAAAAC
 GGTGTTTGTCACTTGCACAGTCTTTACTTGATTGGTACAGGCTTGTACGTATTCTATCAAGTACAAAAATGCAGA
 TAGTGCAGCTAGCAATATCCCTCAAGACCAAACTTTATGTACTTTATGCATACCAGTTACCAGTAGGTATCACAGGTTTGA
 TCTTGGCAGCGATTTATGCAGCATCTCAATCAACTATTTCAACAGGTTTGAACCTCTGTTGCAACTTTCATGGACATTTGGATATT
 CAAGATGTCACTTTCTAAAAATATGTCAGACAATCGTCTGACGAAATTTGCAAAATTCGATCTCTAGCAAGTGGTTTATCTC
 AATTGGTGTTCATTGTGATGGTCACTCAGATATTAATCTGCATACGAATGGTTCAATAGTTTCATGGGACTTGTACTTG
 GTCTACTTGGTGGTGTATTTATCTTGGATTGTTTCTAAAAAAGCAAATAAACAAGGTGCTTATGCAGCGCTGATTGTATCA
 ACCATCGTCATGGTATTTATTAATACTTCTTCTCCAACAGCTGTTAGCTACTGGGCATATTCATTGATTTCAATCTCTGTA
 TCAGTAGTTTCAGTTATTTGATCTGTTCTTACTGTAATAAAGTATCTGCACCTAAATATACAACGATTTCATGATATTAC
 AGAAATTAAGCGGATTCAAGTTGGGAAGTTCGTCACTAA

4138.1 (SEQ. ID. NO. 246)

ATGAAATTTAGTAAAAAATATATAGCAGCTGGATCAGCTGTTATCGTATCCTTGAGTCTATGTGCCTATGCACTAAACCAGCA
 TCGTTTCGACGAAAAATAAGGACAATAATCGTGTCTTATGTGGATGGCAGCCAGTCAAGTCAGAAAAGTGAAAACITTGACA
 CCAGACCAGGTTAGCCAGAAAGAAGGAATTCAGGCTGAGCAAATTGTAATCAAAATTACAGATCAGGGCTATGTAACGTCA

CACGGTGACCACTATCATTACTATAATGGGAAAGTTCCTTATGATGCCCTCTTTAGTGAAGAACTCTTGATGAAGGATCCAAA
 CTATCAACTTAAAGACGCTGATATTGTCAATGAAGTCAAGGGTGGTTATATCATCAAGGTCGATGGAAAAATATTATGTCTAC
 CTGAAAGATGCAAGCTCATGTGATAATGTTTCAAGCTAAAGATGAAATCAATCGTCAAAAAACAAGAACATGTCAAAGATAAT
 GAGAAGGTTAACTCTAATGTTGCTGTAGCAAGGTCTCAGGACGATATACGACAAATGATGGTTATGTCTTTAATCCAGCTG
 ATATTATCGAAGATACGGGTAATGCTTATATCGTTCCTCATGGAGGTCACTACTACATTCCCAAAGCGATTTATCTGCT
 AGTGAATTAGCAGCAGCTAAAGCACATCTGGCTGGAAAAAATATGCAACCGAGTCAGTTAAGCTATTCTTCAACAGCTAGTG
 ACAATAACACGCAATCTGTAGCAAAAGGATCAACTAGCAAGCCAGCAAAATAATCTGAAAAATCTCCAGAGTCTTTTGAAGG
 AACTCTATGATTACCTAGCGCCCAACGTTACAGTGAATCAGATGGCTGGTCTTTGACCCTGCTAAGATTATCAGTCGTACA
 CCAAATGGAGTTGCGATTCCGCATGGCGACCAATTACCCTTTATTCCTTACAGCAAGCTTTCTGCCTTAGAAGAAAAGATTGC
 CAGAATGGTGCCTATCAGTGGAACTGGTTCTACAGTTCTACAAATGCAAAACCTAATGAAGTAGTGCTAGTCTAGGCAGT
 CTTTCAAGCAATCCTTCTTTTAAACGACAAGTAAGGAGCTCTCTCAGCATCTGATGGTTATATTTTTAATCCAAAAGATATC
 GTTGAAGAAAACGGCTACAGCTTATATTGTAAGACATGGTGATCATTTCCTTACATTCCAAAATCAAATCAAATTGGGCAAC
 CGACTCTTCCAAAACAATAGTCTAGCAACACCTTCTCCATCTCTTCCAATCAATCCAGGAACTTCACATGAGAAACATGAAGA
 AGATGGATACGGATTTGATGCTAATCGTATTATCGCTGAAGATGAATCAGGTTTGTCTAGTACCGGAGACCACAATCAT
 TATTTCTTCAAGAAGGACTTGACAGAAGAGCAAAATTAAGGTGCGCAAAAACATTTAG

4139.1 (SEQ. ID. NO. 247)

ATGAAAAAAGAGCAATAGTGGCAGTCATTGTACTGCTTTTGATTGGGCTGGATCAGTTGGTCAAAATCCTATATCGTCCAGC
 AGATTCCACTGGGTGAAGTGGCTCCTGGATCCCAAATTTCTGTTAGCTTGACCTACCTGCAAAATCGAGGTGCAGCCTTTTCT
 ATCTTACAAGATCAGCAGCTGTTATTCGCTGTCATTACTCTGGTTGTCGTGATAGGTGCCATTTGGTATTTACATAAACACAT
 GGAGGACTCATTCTGGATGGTCTTGGGTTTGACTCTAATAATCGCGGGTGGTCTTGGAACTTTATTGACAGGGTCAGTCAGG
 GCTTTGTTGTGGATATGTTCCACCTTGACTTTATCAACTTTGCAATTTTCAATGTGGCAGATAGCTATCTGACGGTTGGAGTGA
 TTATTTATTGATTGCAATGCTAAAAGAGGAAATAAATGGAATAA

4139.5 (SEQ. ID. NO. 248)

ATGAATACAAATCTTGCAAGTTTTATCGTTGGACTGATCATCGATGAAAACGACCGTTTTTACTTTGTGCAAAAGGATGGTCA
 AACCTATGCTCTTGCTAAGGAAGAAGGCCAACATACAGTAGGGGATACGGTCAAAGGTTTTGCATACACGGATATGAAGCA
 AAAACTCCGCCTGACAACCTTAGAAGTGACTGCCACTCAGGACCAATTTGGTTGGGGACGCTGTCACAGAGGTTCTGTAAGGAC
 TTGGGTGCTTTGTGGATACAGGCCTTCTGACAAGGAAATCGTTGTGTCCTCGATATTCTCCCTGAGCTCAAGGAACTCTG
 GCCTAAGAAGGGCGCAACCACTACATCCGCTCTTGAAGTGGAAGAAGAACCGGTATCTGGGCGCTCTTGGCTTATCAAGAA
 GACTTCCAACGCTCTGCTCGTCTGCTACAACAACATGCAGAACCAAACTGGCCAGCCATTGTTTACCGTCTCAAGCTGTC
 AGGAACCTTTGTTTACCTACCAGAAAAATAATATGCTTGGTTTATTCATCCTAGCGAGCGTTACGCAGAGCCACGTTTGGGGC
 AAGTATTAGATGCGCGCTTATTGGTTCCGTGAAGTGACCGCACTTGAACCTCTCCCTCAAACCCAGCTCCTTTGAAATG
 TTGGAAGCAATGCTCAGATGATTTTGACTTATTTGGAAGCAATGGCGGTTTCATGACCTTAAATGACAAGTCATCTCCAGA
 CGACATCAAGGCAACCTTTGGCATTCTAAAGGTCAGTTCAAGAAAGCTTTAGGTGGTCTTATGAAGGCTGGTAAAATCAAG
 CAGGACCAGTTTGGGACAGAGTTGATTTAG

4139.8 (SEQ. ID. NO. 249)

ATGAAGATGTTAGTCTATTTTATTGAAAAAAGTTTTCAAAGCCGCTTAAACTGGATTGTCTTAGCTTTATTTGTATCTGTA
 CTCGGTGTACCTTTTATTTAAATAGTCAGACTGCAAACTCACAGCTTGGAGAGCAGGTTGGAAGTCGCATTGCAGCCA
 ACGAGAGGGCTATCAATGAAAATGAAGAGAACTCTCCCAAATGTCTGATACCAGCTCGGAGGAAATACCAGTTTGCTAAAA
 ATAATTTAGACGTGCAAAAAAATCTTTTGACGCGAAAGACAGAAATCTGACTTTATTAAGAAAGGGCGCTGGAAGAAAG
 CCTACTATTGCAAGTGGCAAGATGAAGAGAAAGAAATTAATGAAATTTGATCAAAATGACCCGACTGCTAGCCCTGGCTTAAAAAT
 GGGGTTTGACCGCGAACGGAAGATTTACCAAGCCCTGTATGCTTGAAGACATAAAAGCACATACTTTGGCTTATCAAGAAC
 GGGATTGATCAGATTGTCTGGATTTAGAGGTTATCATCCCAAGTTTGTGTTGGTTGCTATTATTTTTATGCTAACACAATA
 TTTGCAAGAAAGATCAAAATCATCTGGACACAGCTCACTTATATCTGTTTCAAAGTGACATTTGCAATATCCTCTCTTTGG
 AGTTGGAGTGGATATGTAACGTGCTGTTTACGGAATCTGTGGCTTTCTTTCTAGTGGAAGTCTGATAAGTGGTTTGG
 GACAGTTAGATTATCCCTACCCAATTTATAGCTTAGTGAATCAAGAAGTAACTATTGGGAAAAATACAAGTGTATTATTTCT
 GGCTTGCTCTTAGCTTTCTTAGCCTTATCGTCATTGTGGAAGTTGTGACTTGATTGCTTACTTTTCAAGCAAAAAATGCCT
 GTCCTCTTTCTTCACTCATTTGGGATTGTTGGCTTATTGTTTGGTATCCAAACCAATTCAGCCTCTTCAAAGGATTGCACATCTG
 ATTCCTTTACTTTACTTGCCTTCAAGGAGATTTATCTGGAAGATTACCTAAGCAGATTGATAATGTCGATCTAAATTGGAG
 CATGGGAATGGTCTTACTTCTTGCCTGATTATCTTTTGTCTATTGGGAATTCTATTTATTGAAAGATGGGGAAGTTACACAGA
 AAAAAGAATTTTTAATAGATTCTAG

4141.1 (SEQ. ID. NO. 250)

ATGATGAAGTTCATATTGGATATTGTTAGTACACCAGCTATTTTAGTAGCTTTAATTGCAATCTTAGGATTAGTTCTTCAGAA
 GAAGAAATTACCTGATATTATTAAGGTGGAATTAAGACCTTTGTTGGTTTCTTAGTTGATCTGGTGGTGCAGGAATTGTAC
 AAAATTCCTTAAATCCATTGGTACCATTGTTGAGCATGCTTTTCAATTTATCTGGCGTTGTGCCGAATAATGAAGCAATTGTAG
 CTGTAGCTTTAACAACATATGGCTCAGCTACTGCAATGATTATGTTTGCAGGCATGGTGTCAATATCTTAATCGCTCGTTTTA
 CTCGATTTAAATATAATTTTTTAAACAGGGCACCACACTCTATATGGCATGTATGATTGCGGTCATTTTATCAGTTGCTGGCT
 TTAAGTCTGCTCTCATCTTACTAGGAGGATTAGCACTCGGTATTATTATGAGTATTTCCCCAGCATTTGTGCAAAAAATATA
 TGGTTCAATTAACCTGGAATGACAAGGTAGCTTTAGGTCATTTTCAAGTTCTTTGGGATATTGGTTGAGTGGTTTTACTGGTAGC
 CTTATCGGTGACAAATCAAAATCAACAGAGGACATTAATTTCCAAAGAGTTTAGCTTTTTACGTGATAGTACTGTTAGTAT
 TACTTTATCCATGGCAGTTATTTACATTATTGTAGTATCTTTGCAAGGTCAGAAATATATAGAAAAAGAAATCAGTAGTGGTA
 CAAGTGGTCTAGTTTATGCTTTTACAATAGCAGGTCAATTTGACAGAGGGTATTTGTTATTTTAGCAGGTGTTCGCTTATTT
 TGGGCGAAATTTGTTCCAGCCTTTAAAGGTTATTTAGAGCGTCTTGTACCTAATTCAAAACCTGCTTTGGATTGTCCGATTGTTT
 ATACITATGCACCCAATGCAGTTCTAATTTGGAATTTATCTCTAGTTTGTGTTGGTGGTTAGTAAGTATGGTAATTATGATTGCTT
 CAGGAACGGTTGTTATCTTACCAGGTGTTGTGCTCAATTTCTCTGTGGAGCGACTGCAGGTGTCATTGGGAATGCATCTGGT
 GGTGTTCTGAGGCACTATTGGAGCAATTTTACAAGGTATTTAATCAGGATTTTCTTCCAGTCTTTTAAATGCCAGTTTGGGA
 GGACTTGGTTTCCAAGGATCAACTTTCTCAGATGCAGATTTTGGTCTATCAGGAATTTATTTAGGAATGTTAAATCAATTTGG
 CTCACAAGCAGGCATTGTGATTGGTCTTGTCTTATCTAGCAGTTATGTTTGGAGTATCCTTTATTAAGGCAATCTGCAAC
 GGAGGAATAA

4142.3 (SEQ. ID. NO. 251)

ATGATTA AAAACATTTCTCTGCCCCTTTCGGTCATTCTCTTTTCTATCCCTATCATAACTTATTCTTTTTCCCATCTTCTAATCT
 TAACATTTGGCTATCTACCCAACTATCTTGGCACAGATTTATGCCCTTCCCTTAGCTACTGCAACTATGGCTGCTATTTTAAG
 TTTCTTATTTTTTTTCTCTATCTTTTTACAAGAAAAATAAACAAATACGGTTTTACTCTGGCATTTTGGCTTACTATCGCTCATA
 TTACTATTATTCGGAACAGATAAAACCCCTTTCTCTGCATCAATAAGACTAAAACCTTAAATTAGTAACCTTGGAAACGTCGC
 TAATCAAATAGAAAGCACAAACATATTGAGCGAATTTTATGCCATTTTGACGCCGATATGGCTATATTCCTTGAACCTAGCTACCA
 ATATCAGAGGTGAGCAAGAAAACAGAGAATCAAACCTATTGTTTCATCAAGTTGGACTTTCTATGGCCAACTATGATATTTTC
 ACTTCTCCACCTACCAATAGTGGAATAGCTCCTGTGACTGTGATTGTCAAGAAAAAGTTATGGTTTCTATACAGAAGCTAAAAAC
 TTTTCATACAACACGGTTTCGGGACAATTGTATTACATTGAGAAAAACAAAATATACCAGATATCATTTGCCCTGGCATACTGGCG
 CTCCTCTGCCAGGTTTAAATGGAATCTGGAAGCAAGACTTAAACATCATTCATAATCAATTGGCTTCAAAATATCCAAAGGCT
 ATTATTGCAGGTGATTTTAAATGCAACTATGCGTCATGGAGCACTTGCAAAAATAAGCTCTCATAGGGACGCATTAAATGCAC
 TGCCACCTTTTGAAGAGGAACCTTGAATAGCCAAAGTCCAAAACCTTTTAAATGCAACAATAGATCATATTTTATTGCCTAAA
 AACCACTACTATGTTAAAGATTTAGACATTGTAAGTTTCAAAACCTGATCATAGATGTATTTTACAGAAATCACATTTTA
 A

4142.4 (SEQ. ID. NO. 252)

ATGAATCCAATCCAAGATCTTGGGCTTATGTCAGCAGAAAAGCGACTGAGAAGTTTATTTTATTCTGATTTTATTGGTCTT
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 ATGATTTATCAGCTGCAGACAATAACTTGGTTAGCTTAAACGGCTCTTGAGGATTCATCCAAGGATGTAACCTTTACCAGTTTCG
 GCTTTCAATCTAAAAGAAGGGCGACACCTTCAAAAAGGGGATTCCAAGAAAAATCCTTATCCACGAAGAATTGGCTAAGAAG
 AACGGTCTTTTCGCTTCATGACAAGATTGGCTTGGATGCTGGTCAGTCTGAATCTGGAAGGACAAAACAGTAGAGTTTGAGA
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 TGGACGGACTCATGAAGCAGGTAGAAAACTTGGCCTTGGAAAAATCAAGGCTACCAAGTCGAAAAGGAAAAACAAGGCTTTTG
 AACAAATCAAAGACTCAGTTGCAACTTCCAAACCTTCTGACCATTCTCTTTATGGGATGTTGATAGCAGGAGCTGGAGCC
 TTAATTCTGGTTTTGTCTCTCTGGTTGAGAGAACGGGTCTATGAAGTGGGGATTTTACTTGCATTGGAAAAAGGCAAGAGCTC
 GATCTTCTCTACAATTCTGTTTAGAGGTAGTTTGGTATCTCTTGGAGCTTTGCTTCCAGCATTGTTTGCAGGAAACGCAATCAC
 AACTTACCTACTCCAACTCTACTAGCAAGTGGAGATCAGGCAAGCTTACAAGATACACTAGCCAAAGCAAGCAGTTTATCA
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4142.5 (SEQ. ID. NO. 253)

ATGTTACACAACGCATTTGCCATGTTACAAGGAAGTTTTTCAAATCGATTGTCATCTTCTGATTATTCTCCTCATGGCGAGC
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 CATGCAAAATCAATCGTCGCTCAACCAAGGAACGCCTCGTGGTCTGGGAATATCAAGGGTGAAGACATCAAAAAATCAC
 CGAAAAACAAGGCCATTGAGTCTTATGTCAAACGTATCAACGCTATCGGAGATTGACTGGATATGACCTGATTGAAACGCCA
 GAAACCAAGAAGAATCTCACTGCTGATCGTGCCAAGCGTTTTGGAAGTAGCTTGATGATTACAGGTGTCAATGACTCCTCTA
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 GCAGAAGTAGATGGCTTTAGCAAGACCTTGTGAGCCTAGACATTTCCATTACAGACATCAGACTTTATCATATTTTGTCT
 TGCCTTGGTTCTAGTGGTTCTCGTTATGGCGCTTGCTTCAAGCAATCTCCTTAGAAAAACAACCAAAAGAGCTCTTGGCTGGATG
 GTGAATAA

4144.1 (SEQ. ID. NO. 254)

ATGTCACAGGATAAAACAAATGAAAGCTGTTTCTCCCTTCTGCAGCGAGTTATCAATATCTCATCGATTGTCGGTGGGGTTGG
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 TAGTGGCCTTATACGGAGCTGCCTTTGTCCAGTCTGTCTGCAAGCAAGCGCACCTACGACAAGTACATCGACTGGCTAGATAA
 GGGCAATCGTTTTGACCGCTTCTTTATTTTATGATGATTTGGCCCATTAGCCAGCTGACTTTCTCTGTATGCTGGCTGCCCT
 GACCAAGATGAGCTTCAAGCGCTACATGACCATCATCTTCTGACCAACCCCTTACCCTCGTGGTTATACCTACGGTCTGA
 CCTATATTATTGACTTTTTCTGGCAATGCTTTGA

4144.2 (SEQ. ID. NO. 255)

ATGAGAAATATGTGGGTTGTAATCAAGGAAACCTATCTTCGACATGTGAGTCACTGGAGTTTCTTCTTTATGGTGATTTCGCC
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 AAGCAATTAAGAAGAAAAATTAAGAGGTTATTTGACCATTGATCAAGAAGATAGTGTCTAAAGGCAGTTTATCATGGCGA
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GGATTTGGAAAACCTTTAAACGTGCCTTATCTTATAAATAG

4144.3 (SEQ. ID. NO. 256)

ATGACAGAAACCATTAATTTGATGAAGGCTCATACTTCAGTGCGCAGGTTTAAAGAGCAAGAAATCCCAAGTAGACTTAA
ATGAGATTTTGACAGCAGCCCAGATGGCATCATCTTGAAGAATTTCCAATCCTACTCTGTGATTGTGGTACGAAGTCAAGA
GAAGAAAGATGCCTTGTATGAATTGGTACCTCAAGAAGCCATTGCGCAGTCTGCTGTTTTCCCTTCTTTGTGCGGAGATTTGA
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TGCAGCTCTTGCTGGACAAAACGCCTTGTGGCAGCTGAAAGCTTGGGCTATGGTGGTGTGATTATCGGTTTGGTTCGATACA
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CATCATGATATGAAACCGAGACTGCCACTAGAGAATGTTGTCTTTGAGGAAGAATACCAAGAACAGTCAACTGAGGCAATCC
AAGCTTATGACCGTGTTCAGGCTGACTATGCTGGGGCGCGTGCGACCACAAGCTGGAGTCAGCGCTAGCAGAACAGTTTGG
TCAAGCTGAACCAAGCTCAACTAGAAAAAATCTTGAACAGAAGAAATATTGTTAG

4146.1 (SEQ. ID. NO. 257)

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GAAATATTGGAAATTTGCTGCTAAAAATCGAAGAGGCAGATGGCGTATTATCGGTACTCCTGAGTATGATCACTCTATTCCAG
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TGCCATCTTTGATGACTTCCGTATCTTTGTA AAAATCACAGAAAAATACGTAATGCACAAGAATTACTTCGCAAGATGCTG
AAGACTTTGACTGGGAAAAATTTGTAA

4146.2 (SEQ. ID. NO. 258)

ATGAATACCTATCAATTAATAATGGAGTAGAAATTCAGTATTGGGATTTGGAACTTTTAAGGCTAAGGATGGAGAAGAAG
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TGGTCAAGCAATCAAGATAGCGGAGTTCACGTGAAGAAATGTTTCGTAACCTACCAAGCTTTGGAATAGTCAGCAAACTAT
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AGGGA AAATCCGTGCTATCGGCGTTAGCAATTTTCTTCCCATCATTTGGATGCCTTGCTTGAAACTGCAACTATCGTTCCGT
CGGTCAATCAAGTTTCGTTGGCGCCAGGTGTGTCTAAGATCAAGTCTGAGTCTACTGTCGTGAAAAGGGAATTTTATTGGA
AGCTTGGGGGCCCTTTTGGACAAAGGGAACCTGTTTGTATGCAAGCAAGTCCAAGAAATAGCAGCAAAATCACGGA AAATCGGT
TGCTCAGATAGCCTTGGCCTGGAGCTTGGCAGAAAGGATTTTACCACCTTCCAAAATCTGTCACAACCTCTCGTATTTCAAGCTA
ATCTTGATTGCTTTGGAAATTGAACGTAGTTCATGAGGAGAGAGAAACCTTAAAAACGATTGCTGTTCAATCGGGTGCTCCACG
AGTTGATGATGTGGATTTCTAG

4147.1 (SEQ. ID. NO. 259)

ATGAGGTGCAAAATCTTGATCCAATTGCTATTCAACTAGGACCCCTAGCCATTCTGTTGGTATGCCTTATGTATTGTGACAGG
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ATCAAAATCGAAAGAAGGCCCTTACTATATTACAGAGGAGGAAAACTAA

4147.2 (SEQ. ID. NO. 260)

ATGGGTAAATTATCCTCAATCCTTTTAGGAACCGTTTCAGGTGCAGCTCTTGCCCTGTTTTTAAACAAGTGATAAGGGCAAACA
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ATACTTGCTCAAACTAAATCCTATGCTTTCAAGCGACAGAAGCATCAAAAAATCAATTAATAATCTCAAGGAGCAATGGC
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4147.3 (SEQ. ID. NO. 261)

ATGAAAACATAAATTGATCTTTTGGGGCTCTATGCTCTTTCTCCTCTCCCTCTCCATCCTTCTGACCATTTATCTGGCTTGGATTT
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4149.1 (SEQ. ID. NO. 262)

ATGACTTATCATTTTACTGAAGAATACGATATTATTGTAATTGGTGCGGGACACGCTGGGGTTGAGGCTTCTTGGCCGCTAG
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GCAAGGTATCTAA

4155.1 (SEQ. ID. NO. 268)

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TCCAGTTTATTTTGGTGGTGGGCTGCTGCTTCAATCAAGCGTACACGGACTCGTACGCGCGCTATGATGACAGCTATTTTCAG
ATAAGATTCCGAGTGATAGCAGGTTTTGTAGTCCGTCACAAAAATTTAGACATGGATGCTTTGGGCTCTGCTGTAGGTATG
CAGTTGTTCCGAGCAATGTGATTGAAAAATAGCTATGCTCTTTATGATGAAGAACAAATGTCTCCAGATTTGAACGAGCTGT
TTCATTCATAGAAAAAGAAGGAGTTACGAAGTTGTTGTCTGTTAAGGATGCAATGGGGATGGTGACCAATCGTCTTTGTTG
ATCTTGTAGACCAATTCAAAGACAGCCTTAACATTATCAAAAGAAATTTTATGATTTATTTACCCAAACCAATGTTATTGACCA
CCATACAAGGGATCAGGATTTTCCAGATAAATGCGTTTATTCTATATCGAAAGTGGTGCAAGTAGTCCAGTGAGTTGGTA
ACGGAAATGATTACAGTTCAGAAATCTAAGAAAAATCGTTTGAGTCGTATGCAAGCAAGTGTCTTGATGGCTGGTATGATGTT
GGATACTAAAAATTTACCTCGCGAGTAACATAGTCGGACATTTGATGTTGCTAGCTATCTCAGAACCGCGCGGAAGTGATAGT
ATTGCTATCCAGGAAATCGCTGCGACAGATTTGAAGAAATATCGTGAGGTCAATGAACCTATTTTACAGGGCGTAAATTAG
GTTCAGATGTACTAATAGCAGAGGCTAAGGACATGAAATGCTATGATACAGTTGTTATAGTAAGGCAGCAGATGCCATGTT
AGCCATGTCAGGTATTGAAGCGAGTTTGTCTTGGCAAGAATACACAAGGATTATCTCTATCTCAGCTCGAAGTCGTAGTA
AACTGAATGTACAACGGATTATGGAAGAGTTAGGCGGTGGAGGCCACTTAAATTTGGCAGCAGCTCAAAATTAAGATGTAAC
CTTGTCAGAAGCAGGTGAAAACTGACAGAAATGTATTAATGAAATGAAGGAAAAGGAGAAAGAAGATGA

4156.1 (SEQ. ID. NO. 269)

ATGAAAGAGAAAAATATGTGGAAGAATTGTTGAATCGTGCAGGCTGGATTTTGGTCTTTTACTTGCCGCTCTTTTATATCA
GGTTCCTAGTGGTTACCTCTATTTTGACTTTAAAGAAGTAGCCCTGCTACAGTCAGGGCTGATAGTTGCTGGCCTTTCAA
TTGTGGTTCTGGCTCTATTTATTATGGGAGCTCGTAAAACCAAGTTAGCTAGTTTAAATTTTCTTTTATAGAGCTAAAGATT
TGGCAGCTTTGGGCTTGAGTTATCTAGTTATTTGCTGGGTCAAATATCTTGGTTCCATTTTATGCAACTGTCAAATGAGACG
ACAACAGCTAACCAAGTCTCAGATTTTCCAGATAAATGCTTCAAAATAGTTCGTTGATTCCAGTTTCTTCTGCTAGCCTTGTG
CCGATTTGTGAGGAAATCTTGTGCTGTTGGGATTGTTTCTTAAAGATTTCAGAGGCAAGGAGAACTTGGGATTGTAGTCG
GTACGATTGTGTTTGCTTTATTGTCATCAACCAAGTAATTTACCTTCTTTATGATTTATGGAGGTATGTGACAGTTCTATCTT
GGACAGCTACAAGACCCAAAGCTTTGGAATGTGATCTTGGTTTACATGATTGTTAATGGGATTGCTTCTGTTTGTGGCT
CTTGTTGGTGAATTATGAGTCGGACATTAGGAATTTCTGTTTAAATGAAAGAGAAAAATATGTGGAAGAAGATTGTTGAATCGTG
CAGGCTGGATTTTGGTCTTTTACTTGCCGCTCTTTTATATCAGGTTCCCTAGTGGTTACCTCTATTTTACTTTTAAAGAAAG
TAGCCCTGTACAGTCAGGGCTGATAGTTGCTGGCTTTCAATTGTGTTCTGGCTCTATTTATTAAGGAGTCTGTAAGAAACC
AAGTAGCTAGTTTAAATTTTCTTTTATAGAGCTAAAGATTGGCAGCTTTGGGCTTGAGTTATCTGATGCTGCGGTCA
AATATACTTGGTTCCATTTTATTGCAACTGTCAAATGAGACGACAACAGCTAACCAGTCTCAGATTAATGATATGGTTCAAAA
TAGTTCTGTGATTTCCAGTTTCTTCTGCTAGCCTTGTGCTCCGATTTGTGAGGAAATCTTGTGCTGGGATTGTTCTCTAA
AAAGATTTTCCGAGGCAAGGAGAACTTGGGATTGTAGTCGGTACGATTGTGTTTGGCTTTATTGTCATCAACCAAGTAATTTAC
CTCTTTATTGATTTATGGAGGTATGTCGACAGTTCTATCTTGGACAGCCTACAAGACCCCAACGTTTGGAAATGTCGATCTTG
CTTCACATGATTGTTAATGGGATTGCTTCTGTTTGTGGCTCTTGTGGTGATTATGAGTCGGACATTAGGAATTTCTGTTTAA

4156.4 (SEQ. ID. NO. 270)

ATGGATACACAAAAGATTGAAGCGGCTGTAAAAATGATTATCGAGGCTGTAGGAGAGGACGCTAATCGCGAGGGCTTGCAG
GAAACACCTGCTCGTGTAGCCCGTATGTATCAAGAGATTTTTCAGGCTTGGTCAAACAGCAGAGGAACATTTGTCAAAAT
CCTTTGAAATATTGACGATAATATGGTGGTAGAAAAGGATATCTTTTCCATACCATGTGTGAACACCACTTCTTGCCATTTT
ATGGTAGAGCGCACATTGCCATATCCAGATGGTCTGTGGCAGCTTGTCTAAGCTAGCCCGTACGGTTGAAGTTTATTCG
AAAAAACACAAATTCAGAAACGTTTGAATATCGAAGTGGCCGATGCCTTGATGGACTATCTAGGTGCTAAAGGAGCCTTGT
TTGTCATTGAGGCGGAACATATGTGTATGAGTATGCGTGGTGTAGAAAACCAAGGCACTGCAACCTTGACGACAGTAGCTCG
TGGTCTATTTGAAACAGATAAGGATCTCCGTGACCAAGCTTATCGTTTAAATGGGGCTATAA

4157.2 (SEQ. ID. NO. 271)

ATGAAAGACTTGTTTTAAAGAGAAAGCAGGCCTTTTCGTAAGGAGTGTCTTGGTTATCTGCGCTATGTGCTCAATGACCACTT
TGCTTGTTCCTGTGCTGTTGGGCTTTCTAGCCTACCAGTACAGTCAACTCTTACAACATTTTCCTGAAATCATTGGCC
TATCCTTTTGTGTAGGAATTACGCTGTTTTACTTTTACTTTGGGGAGGAACTGCCACCTATATGGAGGCTCCAGACAAGCT
CTTCTCTTAGTTGGAGAAGAGGAAATTAAGCTCCATCTCAAGCGTCAAACTGGCATTTCCTAGTCTTTTGGCTCTTTGTACA
GACCTTTTCTTGTGTTATTTGCGCCTTATTTTAGCAATGGGTTATGGCTTGGCAGTTTCTGCTCTATGTGCTTTTATTG
GGGCTTTGAAATATTTCCACTTTTGTCAAAGGCCAGCAAAATTTTTCAGTGAACCTGGAGTGGAGTATGTTATTTTC
TCAAGAAAGCAAGCGTAAGCAAGTCTTGTCTGTTTCTTGGCCTTTTACGCAGGTCAAGGGAATTTCAAACAGCGTTAAGC
GTCGTGCTATCTGGACTTTATTTTAAAGGCTGTTTCAAGAGTGCTGGGAAGATTGGCAAAATCTCTATCTGCTTCTTAT

CTGCGAAATGGCGACCTCTTTGCTCTCAGTCTTCGTCTTCTCTTCTGCTTTCCCTTGCTGGCGCAGGTTTTTATCGAGCAAGCTTGG
ATTGCGACAGCAGTGGTAGTTCTCTTTAACTACCTCTTGCTCTTCCAGTTGCTGGCCCTCTATCATGCCTTTGACTACCAGTAT
TTGACCCAACTCTTTCCGCTGGACAAGGGGCAAAAGGAAAAAGGCTTACAGGAGGTAGTTTCGAGGATTGACCAGTTTTGTTT
TACTTGTGGAATTAGTTGTTGGGTTGATTACCTTCCAAGAAAACTAGCCCTTCTAGCCTTACTAGGAGCTGGTTTGGTTTTAC
TAGTCTTGATTGCTTATCAGGTAAAACGTACAGATGCAGGACTAA

4158.1 (SEQ. ID. NO. 272)

ATGAGAAAATCAATAGTATTAGCGGCAGATAATGCCTATCTTATTCCTTTAGAGACGACTATAAAGTCTGTATTGTATCACAA
TAGAGATGTTGATTTTTATATTCTCAACAGTGATATAGCTCCGAAATGGTTTTAAATTTATTGGGGAGAAAAATGGAAGTTGTGA
ATTCTACAATTCGCAGTGTACACATTGATAAAGAAGCTTTTGAAGCTATAAAACAGGACCTCATATAAATTATGCTTCTTAC
TTTAGATTTTTTGGCAGACGAAGTGGTTGAATCTGATAGGGTATTGTATCTGGATTCCGATATCAATTGTAAGTGGGAACTAGC
TACTTTGTTTGAGATAGATCTCAAAGGATATTCAATTTGGTGCTGTTGATGATGTCTATGCCTATGAAGGACGAAAAATCTGGAT
TTAATACTGGTATGTTACTAATGGATGTTGCAAGTGGAAAGAACATTCTATTGTCAATAGTTTATTGGAATTAGCGGCCGAG
CAGAATCAAGTTGTTCATCTTGGGGATCAGAGTATTTAAATATTTATTTTGAGGATAAATGGCTAGCCTTAGATAAAACATA
TAATTTATAGTGGGTATTGATATTTATCACCTTGCTCAAGAATGTGAACGTCTAGATGACAAATCCACCTACAATTGTTCACT
ATGCTAGTACGAGAAACATTTGGAATACATATAGTATATCTAGACTAGTGAATTTATGGTGGGTTTATAGAGATTGGATTGG
TCAGAGATTGCTTTTCAACGTTCCGATTTAAATTTTGAAGAAAGCAATCAGTCTAAAAACAAGTGATGCTTGTGACATG
GAGTGCAGATATAAAACATTTAGAGTATTTAGTACAACGGTTACCTGATTGGCATTTTCATTTGGCTGCACCGTGTGATTGTT
CTGAGGAGCTGACCTCTCTATCAGTATACGAATGTAAACAGTATATCAAAATGTATTACATAGTAGAATTGATTGGCTATTG
GACGATTCTATAGTTTATTTAGATATTAATACAGGTGGAGAGGTTTTAATGTAGTTACAAGGGCACAAGAAAGTGGCAAGA
AAATCTTCGCTTTTGATATCACACGTAAAAGTATGGATGATGGACTCTATGACGGTATTTTTTCTGTGGAGAGACCAGATGAT
TTAGTGGATAGAATGAAGAATATAGAGATAGAGTAA

4158.2 (SEQ. ID. NO. 273)

ATGACTAAGATTTATTCGTCATAGCAGTAAAAAAGGACTATTTACCTCATTTCTACTGTTTATCTATGTATTGGGAAGTCG
TATTTACTTCCCTTTTGTGACCTAAATACTAAAGATTTTTAGGAGGTTCAACAGCCTATCTAGCCTTCTAGCCGCCCTAAC
AGGTGGGAATCTAAGAGTTTATCAATTTTTCTGTTGGATTATCCCTTGGATGTCGCCCATGATTTTATGGCAGATGTTTTCT
TTTTTCTAAACGGTTGGGTTTAAACATCTACGCTATAGAAATACAAGATCGCCGTAAAAATGTACCTGACCTTGCTAATTGCTG
TGATTCAATCCTTGGCAGTTAGCTTGAGACTGCCAGTACAATCCTCTATTCTGCAATATTGGTTGTTCTAATGAATACAATAT
TGCTGATAGCAGGAACATTTTTCTGTTGGTTGTCAGATTAAATGCGAGTATGGGGATTGGAGGTTCTATTGTGAATCCTCC
TATCCAGTATGGTTTTAAATATTCTCAGGATGTTTTGGAACATTTTACAGACGTACACATTCCAACAGGGATTATTGTGTTA
CTTGCTTTATTAACCTTGTCTTTTCTTATTTACTTGCCCTTATGTATCGAGCTCGCTATTTGGTTCTGTTAAATAAAATGGCT
TACACAATCGATTAAACGCTATTCTTATCTCGAAATCATGTTGAATCCTGCAGGTGGGATGCCTTATATGTATGTATGATG
TTTTTGTAGTGACCACTTATTGTTTCATCTTGTGGGATTATTTTCCCTAATCATTACAGGTTAGCGGCTTTATCAAAGGAA
TTTATGGTTGGAAGCCTTTGTGGGTCTATGTTTATATTCGGTCTTATTTTATTAGTATCATTTTGTCTTTGTTTACGATGA
ATGGAGAAGAGATTGCGACCGTATGAAAAATCTGGAGAATACATTTATGGTATTTATCCAGGTGCGGATACAGTCTGATG
TATTAATCGATTGGTCTTTCGTTTCTCAGTCAATAGGTGGTCTCTTTAATGTGATTATGGCAGGTGGTCCCATGCTTTTGTGTTT
TTTGATGAAAAAGTTATTACGATTGGCAATGATTCCAGGCTTATTTATGATGTTCCGGGGCATGATTTTTACGATTAGAGACGA
GGTCAAGGCTTTAAGGCTAAATGAGACCTATAGACCTTTGATTAG

4158.3 (SEQ. ID. NO. 274)

ATGTCCTCTCTTTCGGATCAAGAATTAGTAGCTAAAAACAGTAGAGTTTCGTACGCTCTTTCGGAGGGAGAAAGTCTAGACG
ATATTTTGGTTGAAGCTTTTGTGTGGTGGTGAAGCAGATAAGCGGATTTTAGGGATGTTTCCTTATGATGTTCAAGTCAATG
GGAGCTATTGTCATGCACTATGGAAATGTTGCTGAGATGAATACGGGGGAAGGTAAGACCTTGACAGCTACCATGCTGTCT
ATTTGAACGCTTTTTCAGGAGAAGGAGTGATGGTTGTGACTCCTAATGAGTATTTATCAAAGCGTGATGCCGAGGAAATGGG
TCAAGTTTATCGTTTTCTAGGATTGACCATTTGGTGTACCATTTACGGAAGATCCAAAGAAGGAGATGAAAGCTGAAGAAAAAG
AAGCTTATCTATGCTTCGGATATCATCTACACAACCAATAGTAATTTAGGTTTGTATTCTAAATGATAACCTAGCCTCGAA
TGAAGAAGGTAAGTTTTTACGACCGTTTAACTATGTGATTATTTAGTGAATTTGATGATATCTTGCTGATAGTGCACAACTC
CTCTGATTATTGCGGGTCTCCTCGTGTTCAGTCTAATTAATGATGCGATCATTGATACACTTGTAAACACCTTGGTTCGAAGGA
GAGGATTATATCTTTAAAGAGGAGAAAGAGGAGGTTTGGCTCACTACTAAGGGGGCCAAAGTCTGCTGAGAAATTTCTTAGGGA
TTGATAATTTATCAAGGAAGAGCATGCGTCTTTTGTCTGCTACTGTTTATGCGATTTCGAGCTCAATAGCTTTTACTAA
GATAAGGACTATATCATTTGTTGGAATGAGATGGTACTGGTTGATAAGGGAACAGGGCGTCTAATGGAAATGACTAACTTC
AAGGAGGTCTCCATCAGGCTATTGAAGCCAAGGAACATGTCAAATTTATCTCTGAGACGCGGGCTATGGCCTCGATCACCTA
TCAGAGTCTTTTAAAGATGTTTAAATAGATATCTGGTATGACAGGGACAGGTAAGGTGCGGGAAGAAAGAGTTTATTGAACT
TACAATATGCTGTAGTACGCAATTCACCAATCGTCCGAGACAACGGA
TTGACTATCCAGATAATCTATATCACTTTACCTGAAAAAGTGTATGCATCCTTGGAGTACATCAAGCAATACCATGCTAAG
GGAAATCCTTTACTCGTTTTTGTAGGCTCAGTTGAAATGTCTCAACTCTATTCGTCTCTCTTGTTCGTGAAGGGATTGCCCAT
AATGTCTTAAATGCTAATAATGCGGCGCGTGAGGCTCAGATTATCTCCGAGTCAGGTCAGATGGGGCTGTGACAGTGGCTA
CCTCTATGGCAGGACGTGGTACGGATATCAAGCTTGGTAAAGGAGTCGACAGAGCTTGGGGGCTTGATTGTTATTGGGACTGA
GCGGATGGAAGTCAAGCGATCGACCTACAAATTCGTGGCCGTTCTGGTCTGTCAGGGAGATCCTGGTATGAGTAAATTTTT
GTATCCTTAGAGGATGATGTTATCAAGAAATTTGGTCCATCTTGGGTGCATAAAAGTACAAAGACTATCAGGTTCAAGATA
TGACTCAACCGGAAGATTGAAAGGTCGTAATACCGGAACTAGTCGAAAAAGGCTCAGCATGCCAGTGATAGTGTGGAC
GTTACGACGTCGTGAGTCTGAGTATGCTGAAAGTATGAATATACAACGGGATATAGTCTATAAAGAGAGAAATCGTCT
AATAGATGGTTCTCGTGACTTAGAGGATGTTGTTGTGGATATCATTTGAGAGATATACAGAAGAGGTAGCGGGCTGATCACTAT
GCTAGTCGTGAATTAATGTTTCACTTTATGTTGACCAATATTAGTTTTCATGTTTAAAGAGGTTCCAGATTATAGATGTAAC
GACAAAACCTGCAGTTCGTAGCTTTATGAAGCAGGTGATTGATAAAGAACTTTCTGAAAAAGAAAGAAATTACTTAATCAACATG
ACTTATATGAACAGTTTTTACGACTTTCACTGCTTAAAGCCATTGATGACAACCTGGGTAGAGCAGGTAGACTATCTACAACAG
CTATCCATGGCTATCGGTGGTCAATCTGCTAGTCAGAAAAATCCAATCGTAGAGTACTATCAAGAAGCCTACGCGGGCTTTG
AAGCTATGAAAGAACAGATTATGCGGATATGGTGCGTAATCTCTGATGGGGCTGGTTGAGGTCACTCCAAAAGGTGAAAT
CGTGACTCATTTTCCATAA

4158.4 (SEQ. ID. NO. 275)

ATGATAGGGACTTTTCGCGCTGCTCTTGTAGCTGTACTAGCAAATTTTCATCGTCCCTATTGAAATTACCCCAAAATAGTGCCAA
TACTGAAATTCACCACCAGATGGGATTGGGCAGGTTCTCAGCAACCTCTTGCTCAAACCTGGTTGACAACCCAGTCAACGCC
CTGCTTACTGCTAACTATATTAGAATCTTATCTTGGGCAGTCATTTTGAATCGCTATGAGAGAAGCCAGTAAAAATAGTCA

AGAAATTGCTAAAACTATCGCTGACGTGACTTCTAAAAATTGTCGAATGGATCATCAATCTGGCTCCATTTGGAATCCTTGCTG
TTGTTTTTAAAAACCATTTCTGACAAGGGAGTCGGAAGCCTTGCCAACCTACGGTATTTTATTGGTTCTATTAGTAACGACTATG
CTTTTTGTTGCCCTGTGGTCAACCCCTTTGATTGCCTTCTTCTTATGAGACGCAATCCTTACCCTCTAGTTTGGAACCTGCCTCC
GTGTCAGCGGTGTGACAGCCTTTTCTACTCGTAGTTCTGCGACTAACATTCCTGTCAACATGAAACTCTGCCATGACCTTGGA
CTCAACCCAGATACCTATTCTGTTTCTATCCCACTCGGTTCTACTATCAATATGGCTGGAGTAGCGATTACCATTAACCTTTTG
ACCCCTGCTGCAGTTAACACTCTTGGAATTCCTGTTGACTTTGCCACAGCCTTTGTCCTCAGTGTGGTAGCAGCTATCTCATCC
TGTGATGCTTCAGGTATTGCCGGAGGTTCCCTCCTTCTTATCCCACTGCTTGTAGCCTTTTCGGTATTTCTAACGATATTGCC
ATACAAATTGTTGGGTTGGTTTGTGATTGGTGTCTATCCAAGACTCATGTGAAACAGCCCTTAACCTCTCTACAGATGTCCT
CTTTACCGCGTTGCCGAATACGCAGCAACCCGTAATAAATAA

4158.5 (SEQ. ID. NO. 276)

ATGTCTATTAGCCAACGTACGACCAAGCTCATCTTAGCTACCTGTCTTGCTGCCTGCTTGCTTATTTTCTCAATCTTTCGTCA
GCAGTTTCGGCTGGAATTATCGCTCTCTTGAGCCTATCTGATACCGGTAGAAGTACTTTAAAACTGGCTCGCAATCGTCTTTTT
TCTATGCTTCTAGCTCTGGCTATCGGTGTTCTAGCTTTTCACTTGAGCGGATTTCATATCTGGAGTCTCGGCCTCTATCTGGCC
TTCTACGTTCTTTAGCCTACAAGATGGGCTGGGAAATTTGGCATCACCAAGCACTGTTTTGGTTAGCCATCTCTTGGTTCA
AGAGACTACTAGCCTTCTAGTCAAGATTCCTTCTCTTTGCTATTGGTTACAGGATTTGCCTTGCTTTGTTAACTCTCTA
TATGCCCTTACAGAGAAGAGGAAATCCAGCACTACCACACGCTGGTGGAAGAAAAGTTAAAAGATATCCTCCAGCGCTTCAA
ATACTATTTATCCAGAGGAGACGGACGCAACCGAGCACAGCTGGTAGCAGAATTAGACACGCTTTTGAAAGAAGCCCTCAG
ACTGGTCTATTTGGATCACTCTGACCACCTCTTACCAGACAGACTACCATATCCACTACTTTGAGATGAGACAGCGACAAA
GTCGTATCCTGAGAAACATGGCCCAACAGATTAACTTGTACCTTGCCGCCAGTGAAAGCCTGATCTTAGCGCAACTCTTT
TCAAAAATTGCAAGGTCAACTGAGCCAGACCAATCCTGCTTCTGATTGCTAGATGAAATTGAACGTTATCTGGAAGTCTCCG
GAACCGCAGTCTGCCAAGACAAGAGAAGAAATTTGAAACCCGCGCCACCCTTCTTCAACTCCTACGTGAAGCCAAAACCTTC
ATCCAAGTAAAAGTTGATTTTTACCAAAAATATAGACAGTAA

4158.6 (SEQ. ID. NO. 277)

ATGGAAATCATGTGCTTGGCATTGCTGTTTTTGGCGTCATCATTTGGTTTAGTCAATTGGATATGTCAGCATCTCAGCTAAGATG
AAATCATCTCAGGAAGCTGCAGAGTTGATGCTTTTAAATGCTGAACAAGAAGCAACTAATTTACGTGGACAAGCTGAGCGTG
AAGCGGATTTACTTGTAAATGAAGCCAAACGTGAAAGCAAGTCTCTTAAAAAAGAAGCACTATTGGAGGCCAAAGAAGAAG
CCAGAAAATACCGTGAAGAAGTGGACGCTGAATTCAAAATCAGAACGTCAAGAACTCAAACAAAATCGAAAGTCGTTTGACAG
AGAGACTACTAGCCTTGAAGGACGACAATTTGACGAGTAAAGAACAAACACTTGAACAAAAAGAACAAGTATTT
CTGATAGAGCGAAAAACCTTGATGCGCGTGAAGAGCAATTAGAGGAAGTCGAAAGACAAAAAGAAGCAGAACTAGAGCGT
ATTGGTGGCGTGTCTCAGGCAGAAAGCAGAGATATTATCTTGGCTCAGACAGAGGAAAACCTTGACCAGGGAGATTGCCAGTC
GCATTGCGGAAGCTGAGCAAGAGGTCAAGGAACGTTCTGACAAAAATGGCCAAGGACATCTTGGTTCAAGCTATGCAACGTAT
CGTGGTGAATATGTAGCGGAGTCAACAACTCAACAGTTCTCTGCCAGACGATACTATGAAGGGACGCAATTATTGGTCTG
GAAGGTCGTAACATTCGTACCTTTGAAAGTTTGACAGGGGTCGATGTGATTATCGACGATACACCAGAAGTGGTGACCTTGT
CAGGATTTGATCCGATTGCTGCTGAGATTGCCCCGATGACTATGGAATGTTGCTCAAAGATGGTCTATACATCCAGCTCGT
ATCGAAGAGTTGGTTGAGAAAAACCGTCAAGAGATTGACAATAAGATTCTGTAATACGGTGAGGCTGCTGCCTATGAAATTG
GTGCGCCAAACCTTCATCCAGACTTGATGAAGATTATGGGACGTTTGCAGTTCCGTACTTCATATGGACAAAAATGTTTTGCGC
CATTGATTTGAGGTTGCTAAGTTGGCTGGTATCATGGCGAGCGAAGCTTGGTGAAAAATGCGGCTCTTGCCCGTCTGCTGGATT
CCTTCACGATATCGGGAAGCCATTGACCATGAGGTGCAAGGTAGCCACGTTGAAATCGGTATGGAATTGGCCCGTAAGTAC
AAGGAACCCCAAGTTGTGGTGAATACGATTGCTATGACACCGAGAGATTTGAAGCTGAGAGCGTGATAGCGTTGCTGCG
CTGCAGCAGATGCCTTGAGCGCAGCCGCTCCAGGTGCTCGTAGTGAGTCTCTTGAAAGCTACATCAAGCGTCTCCATGATTG
GAAGAAATTGCTAACGGCTTTGAAGGAGTGCAAACTAGCTTTGCCCTTCAAGCAGGACGTTGAAATTCGTATCATGGTCAATC
CAGGAAAAATCAAGGACGACAAAGTCAAACTTGGCTCACAAGTTCTGTAAGAAATTTGAAACAATCTCGATTATCCAG
GAAATATCAAGGTAACCGTGATTGCGGAGCTTCTGTCAGTAGATTATGCTAAATAA

4158.7 (SEQ. ID. NO. 278)

ATGATGTTAAAAACCTCTATTGATACCTTGCTCGACAAGGTTCTTCAAAAATATTCACCTCGTAATCTTGGAGCAAAAACGTGC
CCACGAATTGGAAGCAGGTGCCCCAGCAACTCAAGGTTTCAAGTCTGAAAAATCAACTCTTCGCGCTTTAGAAGAAATCGAA
TCAGGAAACGTTACAATTCACCCAGATCCAGAAGGAAAAACGTGAAGCAGTGCCTGCGCGTATCGAAGAAGAAAAACGCCG
AAAGAAGAAGAAGAAAAAGAAATCAAAGAGCAAAATTGCTAAAGAAAAAGAAGATGGTGAAAAAATTTAA

4161.1 (SEQ. ID. NO. 279)

ATGTCAGCATATCAATTACCGACCGTATGGCAGGATGAAGCTAGTAATCAAGGAGCTTTTACGGGGCTAAACAGACCAACAG
CAGGTGCCCGTTTCGAACAAAACTTGCCAAAAAGGAGAACAAGCTTTTTCAGCTTTATTCACCTGGGAACACCAAAATGGTGTGAA
GGTACTATCTTATTGGAAGAAATTAAGAGCTGGTTTAAAGGAAGCGGCTTACGACTTGTATAAGATTGCTATCATGGATG
GGGATCAATTCGGATCAGACTTGTGAAGCTCAATCCAAATTCGAAGATTCCAGCCTTATTGGACCAAGTCAGGTACTGAAAA
CGTAAGAGTCTTTGAGTCTGCTCATATTCTTTTACCTTGCTGAGAAAAATTTGAGCCTTTTTTACCAAGTAATCCTGTGGAAAA
GGTAGAAGTTTGAATTGGCTATTCTGGCAAGCAGGTGCAGCACCTTTTCTAGGTGGGGGATTGGACATTTCTTCAATTATG
CTCCTGAAAAATTTGGAATATCCTATTAACCGTTTTACGATGGAAGTGAACGCCAGTTGGATTTATTGGATAAGGAATTGGCT
CAGAAACCTTATATTGCAGGCAATGACTATACGATTGCAGATATTGCTATCTGGTCTTGGTATGGACAGTTAGTTCAAGGAA
ATCTTTACCAAGGTTCTGCAAAATTTCTGGATGCCTCAAGTTATCAAAAATCTAGTAAAAATGGGCAGAAAAAATTGCCAATCG
TCCAGCTGTTAAGCGTGGCTTGGAAGTAACTTATACAGAAATTAATAG

4161.2 (SEQ. ID. NO. 280)

TTGGCAAGCTTGATCACTTCTATCATCATGTTCTATGTGGTTTTGATGTTCTAAGAGATACCAATTCAAAAAGATTCTCAGTCGG
GAAGAAACGGTCATTGATCCTCTTGGTGCAACTCTAGGAATCATTTCTGACGCGATTATGTTGTGGTCTATCTCTACAATAC
TCGCCCTCAGTAAGAAATCCAATCCAATGCGCTGAAGGCAGCTGCTAAGGACAATCTTTCTGACGCTGTTACCTCACTTGG
ACCGCCATTGCCATCCTAGCTAGTAGTTTCAATTAATCCGATTGGGATAAACTGGTTGCTATCATCATCACTTTCTTTATCTTG
AAGACTGCCTATGATATCTTCATCGAGTCTTCTTTAGTCTTTTCTAGATGGCTTTGACGACCGCCTGCTCGAGGACTACCAAAA
GGCTATCATGGAATTTCCCAAAATCAGCAAGGTCAAAATCGCAAGAGGTCGCACCTACGGTAGCAATCATCTACCTGGATATT
ACACTAGAGATGAATCCTGACTTGTCTGTTTTGAAAGCCATGAATTCGCGGATCAGGTGAGTCTATGCTGGAGGAGCGTT
TTGGCGTCTTTGATACCGGATGTTCCATATCGAACAGCACTTACCTGAGGATGAAATTTAGACAATGTCTATAAAAAATTG
CTTATGCGTGAACAATTGATTGACCAAGGAAACCAACTAGAAGAACTCTTGACTGATGATTTTGTCTATATTGCCAAGATG
GAGAGCAGATGGATAAAGAGGCTTATAAGACCAAAAAAGAGTTAAATCTGCTATCAAGGACATTCAAATTACTTCCATCAG

TCAAAAAACCAAACCTCATCTGCTATGAGTTAGATTGGTATCATCCATACCAGTATCTGGCGTCGCCACGAAACCTGGCAAAAT
ATCTTTCATCAAGAAACCAAAAAAGAATAG

4162.1 (SEQ. ID. NO. 281)

ATGACAATTAACTAGTAGCAACGGATATGGACGGAACCTTCCTAGATGGGAATGGACGCTTTGATATGGATCGTCTCAAGT
CTCTCTTGGTTTCTACAAGGAAAAAGGGATTTACTTTGCGGTAGCTTCGGGTCGGGGATTCTGTCTCTAGAAAAATTTATTT
GCTGGTGTTCGTGATGACATTATTTTCATCGCGGAAAAATGGCAGTTTGGTAGAGTATCAAGGTCAGGACTTGTATGAAGCGA
CTATGTCTCGTGACTTTTATCTGGCAACTTTTGAAGGCTGAAAACTTCACCTTATGTAGATATCAATAAACTGCTCTTGACG
GGTAAGAAGGGTTTCATATGTTCTAGATACGGTTGATGAGACCTATTTGAAAGTGAGTCAGCACTATAATGAAAAATATCCAAA
AAGTAGCGAGTTTGAAGATATCACAGATGACATTTTCAAATTTACAACCAACTTCACAGAAGAAACGCTGGAAGATGGGG
AGGCTTGGGTAACGAAAAACGTTCCCTGGTGTAAAGGCCATGACAACTGGCTTTGAAATCCATTGATTTGTTCTGGACTATGTG
GATAAGGGAGTGGCCATTGTTGAATTAGTTAAAAAACTTGGTATCACAATGGATCAGGTCATGGCTTTTGGAGACAATCTTA
ATGACTTACATATGATGACGGTTGTGGGACATCTGTAGCTCCTGAAATGACAGCACTGAAATTTTAGAATTAGCAAAGAC
TGTGATTGGTCACCATAAGGAACGGTCGGTTATAGCTTATATGGAGGGCTTATAA

4162.2 (SEQ. ID. NO. 282)

ATGGCAGATATAAAATTGATTGCATTGGACTTGGACGGGACCTTGCTGACTACTGATAAAAGGCTGACGGATCGTACCAAGG
AAACCTTGCAAGCTGCGCGTGATCGTGGTATCAAGGTCGTATTGACAACCTGGTCGCTCCCTTAAAAGCCATGGATTTCTTTCTC
CATGAGTTAGGGACTGACGGTCAGGAAGATGAGTATACCATTACTTTAATGGTGGATTAGTTTCAGAAAAATACAGGAGAAAA
TCCTTGATAAAACAGTCTTTTCATATGATGATGATGGCACGTTTGTATGAAGAAACAGAGAAATATCACTGCTCTTGTATGCC
ATCTCAGAAGGAACAGTTTATCAAATCCAATCGGACCAAGAAAGTCTTTATGCCAAATTCATCCAGCTTTGACCTTTGTTC
AGTGGACTTTGAAGACTTATCTAGTCAAATGACCTACAACAAATGCGTGACTGCCCTTTGCTCAAGAACCTTGGATGCAGCC
ATTTCAGAAGATTCTCCAGAATTGTTTGACCAATATGAAATCTTTAAATCAGTGAAATGTTGCTAGAATGGTCACCAAGA
ATGTTTCAAAAGCAACAGGTTTGGCAAACTAATCAGCCATCTTGAATCGACCAAGTCAAGTGATGGCTTGTGGTGACGA
GGCCAATGACCTCTCTATGATTGAATGGGCAGGCTTGGTGTGCTATGCAAAACGCTGTTCCCTGAAGTAAAGGCAGCCGCA
AATGTAGTGACGCCGATGACCAACGATGAGGAAGCTGTGCGCTGGGCTATCGAAGAATATGTGCTAAAGGAGAACTAA

4164.2 (SEQ. ID. NO. 283)

ATGGAAAGTTTACTTATTCTATTATTAATTGCCAATCTAGCTGGTCTCTTTCTGATTTGGCAAAGGCAGGATAGGCAGGAGAA
ACACTTAAGTAAGAGCTTGGAGGATCAGGCAGATCATTTGTCAGACCAAGTTGGATTACCGCTTTGACCAAGCCAGACAAGCC
AGCCAGTTAGACCAAAAAAGATTGGAAAGTGGTTGTGTCAGCGACCGTTTGAAGAAGTGCGGATTGAATTGCACCAAGGCTGTA
CCCAAGTCCGTCAGAAATGACAGATAATCTCCTCCAACTAGAGACAAGACAGACCAACGCTCTCCAAGCCTTGCAGGAATC
AAATGAGCAACGTTTGAACAAATGCGCCAGACGGTCGAGGAAAAAACTAGAAAAGACCTTGCAGACACGCTTACAGGCTTC
CTTTGAGACAGTTTCTAAACAACTGGAGTCTGTCAATCGTGGCCTTGGAGAAATGACAGACAGTTGCCCTGTATGTGCGAGCT
CTTAACAAGGTTCTCTCTGGAACCAAGACGCGAGGGATTCTGGGAGAATTGCAACTGGGGCAAAATTATTGAAGACATCATGA
CACCTGCCCACTACGAACGAGAATACGCAACGGTTGAAAACCTCTAGTGAACGAGTGGAGTATGCCATCAAGTTACCCGGAC
AAGGGACCAAGAATACGTCTATCTGCCAATTGACTCTAAGTTTCCACTGGCAGATTATTACCGCTTGGAAAGAACCTATGA
GACAGGTGACAAGGATGAGATTGAACGCTGTGCTAAGTCACTCCTAGCAAGCGTCAAGCGCTTTGCTAGGGATATTAGGAAC
AAGTACATAGCACCACTCGGACGACCAATTTTGGAGTTTGTGTTGTTCCGACAGAAGGTCTCTACTCAGAAATCGTCCGCAA
TCCGCTCTCTTTGATGATTTGAGACGGGAAGAACAGATTATTGTTGACAGGACCAAGTACCCTATCAGCCCTTCTTAACCTCCC
TATCAGTTGGTTTCAAGACCTTAATATCCAAAAAGAGTGCCGACCATATCAGCAAGACTCTTGCCAGTGTCAAGACCGAGTTT
GGCAAGTTTGGTGGTATTCTGGTCAAGGCACAAAAACATCTCCAACATGCCTCTGGCAATATTGATGAATTATTAACCGCTC
GTACCATAGCTATCGAGCGGACGCTCCGTCACATTGAGTTGTGAGAAGGTGAGCCTGCGCTTGATCTACTCCATTTTCAAGAA
AATGAGGAAGAATATGAAGATTAG

4164.3 (SEQ. ID. NO. 284)

ATGAAGATTAGTCACATGAAAAAAGATGAGTTATTTGAAGGCTTTTACCTAATCAAATCAGCTGACCTGAGGCAAACTCGAG
CTGGGAAAAACTACTAGCCTTTACCTTCCAAGATGATAGTGGCGAGATTGATGGGAAAGCTCTGGGATGCCCAACCTCATAA
CATTGAGGCTTTTACCGCAGGTAAGGTTGTCCACATGAAAGGACGCGGAGAAAGTTTATAACAATACCCCTCAAGTCAATCAA
ATTACTCTCCGCTGCTCAAGCTGGTGAACCCATGACCCAGCTGATTTCAAGGTCAAGTCAACAGTTGATGTCAAGGAAA
TTCGTGACTACATGTCGCAAAATGATTTTCAAAATGAAAAATCCTGTCTGGCAACGGATTGTCCGAAATCTCTACACCAAGTAT
GATAAGGAATTTCTACTCTTCACTGCTGCAAGACCAACCACTGCTTTGAAACGGGCTTGGCCTATCATACGCGGACCA
TGGTGGCTTTGGCAGACGCTATTAGCGAAGTTTATCCTCAGCTCAATAAGAGCCTGCTCTATGCGGGGATTATGTTGCATGAC
TTAGCTAAGGTCATCGAGTTGACGGGGCCAGACCAGACAGAGTACACAGTGCGAGGTAATCTTCTTGGACATATCGCTCTCA
TTGATAGCGAAATTACCAAGACAGTTATGGAACCTCGGCATCGATGATACCAAGGAAGAAGTCGTTTGGCTTCGTCATGTCAT
CCTCAGTCAACACGGCTTGGCTTGAATGGAAGCCAGTCCGTCACGCATTATGGAAGCAGAGATTATCCATATGATTGAC
AATCTGGATGCAAGCATGATGATGATGTCAACAGCTCTTGGTTGGTAAAGGAGAGATGACCAATAAAATCTTCGCTA
TGGATAATCGTTTCTCTATAAACCAGATTTAGATTAA

4166.2 (SEQ. ID. NO. 285)

ATGAGTGAAAAAGCTAAAAAAGGGTTTAAAGATGCCTTCATCTTACACCGTATTATTGATAATCATTGCTATTATGGCAGTGC
AACTTGGTTTATCCCTGCGGGGGCCTTTATAGAAGGTAATTTACGAGACTCAGCCTCAAAATCCCAAGGGATTGGGATGTCC
TCATGGCACCGATTGGGGCTATGCTAGGTACTCATCCAGAGGAAGGTTGCTCATTAAAGAAACGAGCGCAGCGATTGATGT
AGCCTTCTTCATCCTTATGGTTGGTGGTTTCCTTGGCATTGTCAACAAAACCTGGTGCTCTTGACGTAGGGATTGCCTCTATCGT
GAAGAAGTATAAGGGCCGCGAAAAAATGTTAATTTTGGTACTGATGCCTTTGTTTGGCCTCGGTGGTACAACCTTATGGTATGG
GTGAAGAAACAATGGCCTTCTATCCACTCCTTGTGCCAGTTATGATGGCCGTTGGTTTGGATAGCCTGACTGGTGTGCAATT
ATTTTGTCTCGGTTCTCAAATCGGCTGTTTGGCATCTACTCTGAATCCATTTGCGACAGGTATTGCTTCAGCGACTGCGGGAGTT
GGTACAGGGGACGGTATCGTACTTCTGCTGATCTTCTGGTTACCTTGACTGCTCTTACTGTTGTTTACCGTTATGCG
GATAAGATTCAAAAGATCCGACTAAGTCACTGGTTTATAGTACTGCAAAAGAAGATTGAAACACTTTAACGTAGAAGAAT
CTTCATCTGTAGAATTACACTTAGCAGCAAAACAAAAATCAGTTCTCTTCTTATTTGTTGTTGACATTCATCTTGAATGGTATTGA
GCTTCATTCCATGGACAGACCTTGGCGTTACCATTTTTGTATGACTTTAATACCTTGGTTGACTGGTCTTCCAGTTATTGGTAATA
TTGTCGGTTCTACTTCTGCACTAGGTACTTGGTACTTCCCAGAAAGGCGCAATGCTCTTGGCTTTATGGGTATCTCGATTG
GTGTTATTATGTTCTTAAAGAAAGATAAGATTATCTCTTCTCATGAATGGTGCTGCTGACTTGGCTCAGTTGCTTGGCTTATGCTG
TAGCGATTGCTCGTGGTATTCAAGTTATCATGAACGACGGTATGATTACCGATACAATCTCAACTGGGGTAAAGAAGGCTT

GAGCGGTCTATCTTCACAAGTCTTTATCGTTGTAACCTTATATCTTCTATCTACCTATGTCATTCTTGATCCCATCTTCATCTGGT
CTTGCCAGCGCAACTATGGGTATCATGGC
TTCACCTGGAGAAATTTGTAATGTCCGTCCTAGCTTGATTATCACTGCTTACCAATCTGCTTCAGGTGCTTTGAACTTGATTGC
ACCAACATCTGGTATTGTGATGGGAGCTCTTGCACTTGGACGTATCAACATTTGGTACTTGGTGGAAATTCATGGGCAAACTCG
TAGTCGCTATTATTGTAGTGACCATCGCCCTTCTTCTCTTGGAACTTCCCTTCCATTCTCTATAA

4166.3 (SEQ. ID. NO. 286)

ATGAAAATAGATATAACAAATCAAGTTAAAGATGAATTTCTTATATCATTAACCACTTGATTTCCTATCTTCAGTACTCAA
TGAAGGAGAAAATGGAACACCTTTTGGACAAGCAATCCAAGATGTCCTAGAAAAAACTTTAGAGATTTGTGCGAGACATAGG
TTTCACTACCTATCTTGACCCTAAAGGTTATTACGGATATGCGAGAAATCGGTGAGGGAGCAGAGCTTCTGGCCATTCTCTGTC
ATTTGGATGTTGTTCCATCAGGTGATGAAGCAGATTGGCAGACACCGCCATTGGAAGCAACTATCAAAGACGGCTGGGTATT
CGGACGTGGTGTCCAAGATGATAAAGGCCCTTCGCTCGCAGCTCTCTATGCAAGTAAAAAGCTTGCTGGACCAAGGTATTTCAG
TTCAAAAAGCGCGTACGCTTTATCTTTGGTACCGATGAGGAAACCTCTGGCGCTGCATGGCAGCTACAATACCATCGAAG
AACAGGCCAGTATGGGCTTTGACCTGACTCATCTTTTCTCTGACCTATGCTGAAAAAGGGCTTACAGGTCAAACCTTCAT
GGCCCTGGATCGGATCAACTAGAGCTTGAAGTAGGAGGGCGCTTTAACGTTGTACCAAGACAAGGCCAACTACCAAGGTCTCC
TCTATGAACAGGTTTGTAAACGGTCTCAAAGAAGCTGGTTATGATTACCAACCACTGAACAAACCGTAACGGTTCTCGGAGT
GCCAAAGCATGCTAAGGATGCTAGTCAAGGTATCAATGCTATGCCAGTATGCGACTAGTACCATTTCTGCTCTCCAAAGAACACC
CTGCTCTCAGTTTTCTTGCAACACAAGCAGGTCAAGACGGCACAGGAAGACAAATCTTTGGTGATATAGCAGATGAACCTTC
TGGTCACCTATCTTTAATGTGCGAGGTCTCATGATCAATCATGAACGTTCTGAAATCCGTAATTGACATTCCGACTCCTGTCTT
AGCTGACAAGGAAGAACTAGTAGAGTTGCTTACAAGATGTGCACAAAACCTACCAACTCCGCTACGAAGAGTTTGACTATCTA
CGCCTCTATACGTCGCGAGAGACAGTAAACTGCTTAGCAGCTATGCAAAATCTACCAAGAAAAAGCTGGCGATTAACAGTC
CTGCTATTTTCATCCGGTGGTGCCACTTTTCTGCTCGCACCATGCCAAATTGTGTAGCCTTCGGCGCCTTATCCAGGAGCGAAG
CAGACAGAACATCAGGCAAAATGAATGTGCCGTCTAGAAGATTGTACCGTGCTATGGATATTTATGCCGAAGCCGTCTATC
GACTTGAACCTTAA

4169.1 (SEQ. ID. NO. 287)

ATGCTAATTCATTTGTCAAGTTGTTAGTCTCTCAATTTATTTGCAAATTTAGCAGATATTTTCTTTAGAGTAACAATCATTGCT
AACATATACATTATTTCAAAAATCAGTAATTGCCACATCACTAGTTCCTATCTTAATAGGAATATCCTCTTTTGTGCGAGTCTT
TTAGTTCCGTTGGTTACTAAAAGGTTAGCGCTAAAAGGGTTTTATCTTTATCTCAATTTGGAAAGACTATATTATTGGCGAT
ACTGGTAGGAAATGTTTACCGTAATGCAATCCGTAGCGCTTTGGTGACCTATCTATTTGTTGTTGCAATTTCCATACTAGATG
GTTTTGACGACCCGTTTCCATGCTATTGTGCCAGCTATGCGACCGATTGGGTAAGGCTAATTCAGCCTTATCAATGACT
GGTGAAGCTGTTCAATTGATAGGTTGGGGATTAGGTGGACTCTTGTGTTGCAACAATTGGTCTGTTACCTACCACGTGTATCAA
TTTAGTCTGTATATCAATTTCTAGCTTTCTGATGTTATTTCTCTCAACGCTGAAGTGGAGGTGTTAGAGTCAGAACTAATCT
TGAAATTTTGTCAAAAGGTTGGAAGTTAGTTGCTAGAAATCCTAGATTAAGACTTTTTGTATCAGCAAAATTTATTGGAAATTT
TTTCAAAATCAGATTGGGTTTCTTCCATTATACTTGTGTTTGTAAACGGAGTTATTAAATAAAAACGGAAAGTTACTGGGGATATT
CTAATACAGCATACTCTATTGGTATTATAAATTAGTGGCTTAATTGCTTTTAGGCTATCTGAAAAGTTCCTTGCTGCTAAATGGG
AACCCTAATTTATCCACCCAAATCTAAAAACCATCCAGAATCCTTGCCCTAGCTTAGATCCCTGGATGGTTTCTTTTTCAACCCA
ATGGGTGTTTTTACTAGACAAAAAAGAGTTTCCCTTTATGGTATAAGTGAAGAAAAAACAAAAAGAAAGGAACTCA
CATGAACAGTTTACCAATATCACTACTTCCAAAACAAGCTTTTTACCAACTATCTTTCCGATGGAGGTCATTTAACCCAGTATG
GTGGTCTTATCTTTTTTCAGGAACCTTTTTCCAGTTGAAACTAAAAGAGCGGATTCTAAGTATTAGTAACGAATGACCAA
CGCCGCTACTGTGCTTATTCGGATTAGATATCCTTGTCAGTTCTCTTTCAACTGTTAACAGGTTATGGAACGGACTATGCT
TGTAAGAATTGTCAAGTGTGCTACTT
TCCAAAATTTGTTGGAAGGAGGGCAGCTTGCTTCACAGCCAACCTTATCCCGTTTTCTTTCCAGAACTGACGAGGAAACAGTCC
ATAGTTTGGCGATGCCTCAACCTTGAATTGGTGAATTTCTTTTACAGTTTACCAAGCTAAACCAACTCATTGTAGATATCGATT
CTACCCATTTTCAACATTATGGCAAGCAAGAAGGTGTGCTTATAACGCCCACTATCGTGCTCATGGCTATCATCTCTTTT
GCCTTCGAGGGGAAGACAGGTTATTGTTTCAATGCCAGCTTCTGCTCGTAAATCGTTATTGTTCTGAAGAGGCGACAGCTT
TATCACACCTGTTTTAGAACGGTTAATCAACTTCTCTTTCGAATGGATAGTGGCTTTGCGACCCCAAAATATACGATTTAAT
TGAAAAACAGGGCAATACTACCTCATAAACTCAAGAAAAAATCTGTTCTGAGCCGCTTGGAGACCTTTCCCTCCCTTGC
CCACAGGATGAGGACTTAACCATCTTGCCCACTCCGCTACTCAGAAAACCTCTATCAAGCAGGATCTTGGTCGCAAGC
GTCGTGTCTGCCAGTTCTCTGAACGAAAAGAAGGAACTTGTCTACGATGTTATTTCTCTCGTTACAAATATGACGAGTGGA
ACAAGCCAAGACCAAGTTTACGCTTATCGTGGACGTGGTCAAGCCGAGAATTTCAAGGAGATGAAGGAGGGATTTTTTG
CGGATAAAACGGATAGTTCAACCTTAATCAAAAACGAAGTTCGTATGATGATGAGCTGTATCGCCTACAATCTCTATCTTTT
CTCAACATCTAGCTGGAGGTGACTTCCAAACTTTAACAATCAAAACGCTTCCGCCATCTTTCTTTCACGTGGTGGGAAATG
TGTTGCAACAGGACGCAAGCAGCTCCTCAAATTGTCTAGTCTCTATGCCTATCCGAATTGTTTTCAGCACTTTATTCTAGGAT
TAGAAAAGTCAACCTGAATCTTCTGTTCTTATGAACCACCTAGAAGAAAAGCGTCGTTAATGATGCATTAA

4169.3 (SEQ. ID. NO. 288)

ATGATGGAGTTTTTCAACAGCTTCCTCATTTAGAGCCATATGGCAATCCTCAGTATTTTGTGTTATGTGATTGCTGCAACCTTG
CCCATCTTTATAGGTCTCTTTTTCAAGAAACGCTTTGCCTGGTATGAAGTGTGGTAAGTCTCTCTTTATTGTCAACCATGTTG
GTGGGTGGAAAGACCAATCAACTAGCTGCCTTGGGTATTACCTTTGCTGGGAAATATTGCTCCTGCTTTTCTACAAGCATT
TCGAAAAAGCAAGGATGGCAAGTGGGTCTTCTACTTAGTTAGTTTCTGTCCCTACTCCGATTATCTTTGTCAAGGTGCAAC
CAGCTATCAATGGAACGCAGTCTTTGCTTGGGTTCTTGGGAATTTCTTACCTGACCTTTCGTTCCGTTGGAATTGTATCGGAGC
TGAGAGATGGAGTGATTAAAGGATTTACCTCTGGGAATTCCTCGTTTCTCTCTCATGCCAATCTTCTGAGTGGTGGTCCAA
TCGATCGCTTTAAGCGATTAAATGAAAATATCAGGCTATTCTGAGCGAGATGAGTTGATGGATATGCTGGATGAATCTGTC
CGCTATATCATGTGGGGCTTTTTGTATAAGTTTATCCTAGCTCATGTTTATAGGAGAGACCTTACTACCTCCTCTGAAGAAATTA
GCCTTGCACTCAGGTGGCTTCTTAACTCTATGCTTGGCAGTTATGTATACTTTTGGTCTGGAACCTCTCTTTGACTTTGCA
GGTTATTCTATGTTTGTCTTGGCCATCTCAAACTTGAACAAATCGGTAACCGTATGCCATTTCAACTTTAAACAGCCCTTCAAGG
GATTTAAAGGAGTTTGGAAATCGCTGGCATATGAGTCTGTCTTCTGGTTCCGTGACTTTGTCTTTATGCGAATGGTGATGGT
GTTAACCAGAAAAGAAAGCTTTTAAAAATCGTAATGTAACCTCAAGCATGGCCTACATTGTAATATGCTGATTATGGGATTTT
GGCATGGTGTGACCTGGTACTATCGCCTATGGACTCTTTCATGGACTAGGCTTGGTCACTCAATGATGCTGGTGGTTCGCAAG
AAAAAACGCTCAATAAGGAACGGAAGAAAGCAGGGAAGGCTGCCCTACCTGAGAATCGCTGGATTAGTTGCTTGGCATG
GTTGCTACTTTCCATGTTGTCATGTTGTCATTCTTAATCTTTTCTGGATTCTTGAATAATCTATGGTTTAAAAAATAA

4169.4 (SEQ. ID. NO. 289)

ATGCTTAAACGCTTATGGATGATCTTCGGACCGGTCTTGATCGCTGGTTTGGTGGTCTTCTGCTCATTCTTTTATCCTACTG
 AGATGCATCATACTAGGAGCTGAAAAGCGTTACAGAGTGGCTACTACTATCGATAGTTTAAAGGAGCGAAGTCAAAAAGT
 CAGAGCACTATCTGATCCAAATGTGCGTTTGTTCCTCTTTGGCTCTAGTGAATGGCTTCGTTTGACGGTGCTCATCCTGC
 GGTATTAGCTGAGAAATACAATCGTTCCTACCGTCTTATCTTTTAGGACAGGGGGGAGCTGCATCGCTTAACCAATATTTTG
 GAATGCAACAGATGTTACCACAGCTGGAGAATAAAACAAGTTGTGTATGTTATCTCACCTCAGTGGTTCAGTAAAAATGGCTA
 TGATCCAGCAGCCTTCAGCAGTATTTAATGGAGACCAAGTCTAGTATTTCTGAAACATCAATCTGGGGATCAGGCTAGTC
 AATATGCAGCGACTCGCTTACTGCAACAGTTCCCAACAGTAGCTATGAAGGACCTGGTTCAGAAGTTGGCAAGTAAAGAAGA
 ATTGTCGACAGCAGACAATGAAATGATTGAATTATTGGCTCGTTTAAATGAACGCCAAGCTTCCTTTTTTGGTCAGTTTTCGG
 TTAGAGGCTATGTTAACTACGATAAGCATGTAGCTAAGTATTTAAAAATCTTGCCAGACCAGTTTTCTTATCAGGCAATAGAA
 GATGTTTGCAAAAGCAGATGCTGAAAAAAATACTTCCAATAATGAGATGGGAATGGAAAAATTATTTCTATAATGAGCAGATCA
 AGAAGGATTTGAAGAAATTAAGGATTCTCAGAAAAGCTTTACCTATCTCAAGTCGCCAGAGTATAATGACTTGCAGTTGGT
 TTTAACACAGTTTTCTAAATCTAAGGTAAACCCGATTTTATCATTTCCACCTGTTAATAAAAAATGGATGAACCTATGCTGGTC
 TACGAGAGGATATGTACCAACAACCGTGCAGAAAGTTCGTAACAGTTAGAAAAGTCAAGGTTTTACCAATATAGCAGATTT
 TTCTAAGGACCGCGGGGACCTTTCTTTATGAAGGACACCATTACCTTGGTTGGTTGGGTTGGTTGGCTTTTGACAAGGCAG
 TTGATCCTTTCTATCCAATCCACACCAGCTCCGACTTACCATCTGAATGAGCGCTTTTTTCAGCAAAGATTGGGCGACTTAT
 GATGGAGATGTCAAAGAATTTCAATAG

4169.6 (SEQ. ID. NO. 290)

ATGGAGAAAAACCTCAAGGCTTTGAAACAAACAACAGACCAAGAAGGCCAGCAATTGAACCTGAAAAGGCAGAGGATAC
 CAAGACAGTCCAAAAATGGTTACTTCGAGGATGCAGCTGTCAAGGACCGCACCTTGAGTGACTATGCAGGTAACCTGGCAATCA
 GTTTATCCTTTTCCCTTGAAAGACGGCACGTTTGACCAAGGCTAAGTTGACTGGTAAGATGACCCAGGCTGAG
 GTACAAGGCTTACTATACAAAAGGCTATCATACAGATGTGACTAAGATTAACATTACTGATAATACTATGGAATTTGTTCAA
 GGTGGACAAAGCAAGAAATACACTTACAAGTATGTGCGTAAGAAAAATTTGACTTACAAGAAAGGCAATCGTGGCGTGGCT
 TTCTCTTTGAAGCCACAGATGCTGACGCTGGACAATTCAGTATGTTCAAGTTTGTGACCAATGTTGGCCCAAGTTAAGGC
 AGAACATTTCCATATCTTTTGGAGGCACAAGCCAAGAAGCCCTCTTTGAAGAAATGGACAACCTGGCCAACTACTACCCA
 GATAACCTATCTGGCCAAGAAATCGCCCAAGAAATGTTGGCGCATTGA

4170.3 (SEQ. ID. NO. 291)

ATGAAAGATGGTCATTGCTAGCCCATCATATTCGTTTGTGAATGGGCGGATTTTTCAAAGTTACTGAGTCAAGATCCTGA
 GGCTCTTTATAGGGGTGAACAGGGCAAGATTTAGCGGTTTATGGAATAGTGAAGCTGGCTGCGCAACTGCGACAGATATC
 GCGCTTGGCACTGGACTTGCAGATAATACGCTGACGACTATGATAAAAAAGCTAGAGGAACAAAAGCTTGTAAATGTTAGTC
 CGTGTGGAAAAGACAAGCGTAAGAAGTATTTAGTTTTAACGGAGTTAGGCAAGTCCCAGAAAGAAAGTGGGGCATCGTGTCA
 GTCAGAAATTTGATACTATCTTTTACAAAGGATTTTCAGAGGAAGAAATTCACCAATTTGAAGGTTTCAAGAAAGAAATTT
 GGCGAATCTGAAAAGAGAAGGGAAATGAGGTTTAG

4170.4 (SEQ. ID. NO. 292)

ATGACTAATTAAATGCAACTTTTCAGGATCGTTTTAGTGATTGGTTGACAGCTCTATCTCAACATTTGCAGTTGTGCGTTTTG
 ACCTTGTTACTAGCTATTTTGTGCGATTCCCTTGGCTGTTTTCTTCGCTATCATGAGAAGCTGGCCGACTGGGTCTTGCGAG
 ATTGCAGGTATTTTCCAGACCATCCCGTCTCTGGCCTTGTGGGGCTCTTTATCCCTTTGATGGGAATTGGGACCTTGCCGGCT
 TTGACAGCTCTAGTGATTATGCGATTTTCCCTATTTTGCAAAATACTATCACTGGGCTGAAGGGAATTGATCCGAACCTGCA
 AGAGGCTGGGATTGCTTTGGGATGACCAGATGGGAACGCTCAAGAAATTTGAAATTCCTACTCGCCATGCCTGTTATCATG
 TCTGGGATTTCGGACGGCAGCTGTTTTGATTATCGGTACGGCAACCTTGGCGGCTTGATTGGTGCAAGGGGACTAGGTTCCCTT
 TATTCCTTTTGGGAATTGACCGTAATAATGCCAGTTGATTTTGATTGGGGCCTTTCTTCTGCAGTGCTAGCCATTGCTTTAA
 CTTCTCTACTAAAGTGATGGAAAAAGCAAAATACGGACGATTTTCTCAGGTTTGCCTTGGTGGCTTTTACTGGGTCTGT
 CTTATAGTCCAGCTCTTTTGGTTCAAAAAGAGAAGGAAACCTTGGTTATTTGCTGGGAAAAATAGGTCCAGAACCAAGAAATTT
 GGCCAATATGTATAAGTTGTGCTGATTGAAGAAAAATACCGCATGACTGCGACTGTAAACCGAATTTTGGGAAGACAAGCTTC
 CTTTATGAAGCTCTGAAAAAGGCGATATTGACATCTATCCTGAATTTACTGGTACGGTGACTGAAAGTTTGTCTCAACCATC
 ACCCAAGGTGAGTCATGAACCAGAACAGGTTTATCAGGTGGCGCGTGATGGCATTGCTAAGCAGGATCATCTAGCCTATCTC
 AAACCCATGTCTTATCAAAAACCTATGCTGTAGCTGTTCGCAAAAAGATTGCTCAAGAATATGGTTGAAGACCAATTTACG
 ACTTGAAAAAAGTGGAAGGGCAGTTGAAGGCAGGTTTTACACTCGAGTTTAAACGACCGTGAAGATGGAATAAGGGCTTGC
 AATCAATGTATGGTCTCAATCTCAATGTAGCGACGATTGAGCCAGCCCTTCGCTATCAGGCTATTCAGTAGGGGATATTTCAA
 ATCAGGATGCCTATTCGACTGATGCGGAATTGGAGCGTATGATTTACAGGTTCTTGGGAAGATGACAAGCAACTCTCCAC
 CTTATCAAGGGCTCCACTGATGAAAGAGCTCTTCTCAAGAAACCCAGAGTTGGAAAGAGTTCTTAATACATTTGGCTGG
 TAAGATTACAGAAAGCCAGATGAGCCAGCTCAACTACCAAGTCGGTGTGAAGGCAAGTCAGCAAAGCAAGTAGCCAAGGA
 GTTCTCCAAGAACAAGGTTTGTGAAGAAATGA

4170.5 (SEQ. ID. NO. 293)

ATGATGCATACTTATTTGCAAAAAGAAATTTGAAAATATCAAAACAACCCTAGGTGAAATGTCAGGTGGTTACCGTCTGATGG
 TTGCGGCTATGGCTGATTAGGATTTTCAGGAATATGAAGGCTATCTGGGATGACCTCTTTGCCCATCGTAGTTTGGCCAG
 TGGATTATTTTGGTGGTTTTAGGAAGTTTCTCTCTGGCTGGAGTTGGTTTACGAACATCGTATTGTTGACTGGATTGGGATG
 ATTTGTAGCTTGACAGGGATTATCTGTGTAATCTTTGTATCGGAAGGTCGAGCAAGTAATTATCTTTTGGCTTGATTAACTCT
 GTTATTTACCTTATTTTGGCCCTACAGAAAGGCTTTTATGGTGAGGTGCTGACGACACTTTACTTCACAGTCATGCAGCCAAAT
 TGGACTTCTAGTTTGGATTATCAGGCACAGTTTAAAGAAGGAAAGCAGGAGTTTGTGCGCGCTAAACTGAGCGCAAGGGC
 TGGACAAAGTATCTTTCCATTAGTGTGCTTTGGTGGTTGGCTTTGGCTTCATTTATCAGTCTATTGGTGCCAATCGTCCCTAT
 CGTGATTCAATCAGATGCAACCAATGGGGTAGGGCAATCTCATGACAGCTGTTACCGTGAACAGTGGATATTCTGGG
 CGGCTACCAATGTCTTTTCAATCTATCTCTGGTGGGGAGAAAGCCTGCAAAATTCAGGGAAATATCTAATTTATCTCATTAAAC
 AGTCTAGTTGGTTGGTATCAATGGAGCAAGGCAGCTAAGCAGAATACTGATTTACTTAACTAG

4170.6 (SEQ. ID. NO. 294)

ATGAGAAATATGAAGGCAAAATATGCTGTTTGGGTGGCTTTTTCTTAAATTTGACTTATGCCATTGTTGAGTTTATTGCAGG
 TGGAGTATTTGGTTCTAGCGCTGTTCTTGCTGACTCTGTGCATGACTTGGGAGATGCGATTGCAATTGGAATATCAGCTTTTCT
 AGAAACAATCTCCAATCGTGAAGAAGACAATCAGTACACCTTGGGCTATAAGCGGTTTACCGTCTAGGAGCCTTGGTAACA
 GCTGTGATTCTCGTAACGGGCTCTGTTCTAGTCAATTTGAAAAATGTCACGAAGATTTTGATCCGCAACCAAGTCAATGATGA
 GGGGATTCTCTGGTTAGGAAATTTAGCGATTACTATCAATCTGTTAGCGAGTCTGGTGGTTGGTAAGGGAAGACAAGAAAT
 GAGTCTATTCTGAGTCTGCATTTTCTGGAAGATACGCTAGGGTGGGTAGCTGTTATCCTGATGGCGATTGTTCTTCGATTTAC

GGACTGGTATATCCTAGATCCTCTTTTGTCCCTTGTCACTTTCTTTCTTTATCTTTTCAAAAGCCCTTCCACGTTTTTGGTCTACA
CTCAAGATTTTCTTGGATGCTGTGCCAGAAGGTCTTGATATCAAGCAAGTAAAGAGTGGCTGGAGCGATTGGACAATGTGG
CCAGCCTTAATCAGCTTAATCTCTGGACTATGGATGCTTTGGAAAAAATGCCATTGTCCATGTTTGTCTAAAAAGAAATGGAA
CATATGGAACTTGTAAAGAGTCTATTCTGAATTTTCTTAAAGATTGTGGTTTTCAAAATATTACCATTGAAATGATGCTGA
CCTAGAACTCACAAACCCATAAGCGAAAGGTGTGTGACTTGAACGGAGTTATGAGCATCAACATTAG

4170.8 (SEQ. ID. NO. 295)

ATGATTGAATACAAAAATGTAGCACTGCGCTACACAGAAAAGGATGTCTTGAGAGATGTCAACTTACAGATTGAGGATGGG
GAATTTATGGTTTTAGTAGGGCCTTCTGGGTCAAGTAAGACGACCATGCTCAAGATGATTAACCGTCTTTTGGAAACCACTGA
TGGAAATATTTATATGGATGGGAAGCGCATCAAAGACTATGATGAGCGTGAACCTTCGTCTTTCTACTGGTTATGTTTACAGG
CTATTGCTCTTTTCCAAATCTAACAGTTGCGGAAAAATATTGCTCTCATTCCTGAAATGAAGGGGTGGAGCAAGGAAGAAATT
ACGAAGAAAACAGAAGAGCTTTTGGCTAAGGTTGGTTTACCAGTAGCCGAGTATGGGCATCGCTTACCTAGTGAATTTATCTG
GTGGAGAACAGCAACCGGTGCGGTATTGTCCGAGCTATGATTGGTCAGCCCAAGATTTTCTCATGGATGAACCCCTTTTCGGCC
TTGGATGCTATTTTCGAGAAAACAGTTGCAGGTTCTGACAAAAGAATTGCATAAAGAGTTTGGGATGACAACGATTTTTGTAA
CCCATGATACGGATGAAGCCTTGAAGTTGGCGGACCGTATTGCTGTCTTGCAGGATGGAGAAAATTCGCCAGGTACCGAATCC
CGAGACAATTTTAAAGCGCCTGCAACAGACTTTGTAGCAGACTTGTTTGGAGGTAGTGTTCATGACTAA

4171.1 (SEQ. ID. NO. 296)

ATGTCAGCAGTTGCTATTTTCACTATGACCAAGGTTATGCAAGAAACCCACGGAAATCCTTCTAGTATTATGGTCATGGTCTG
TCAAGCTGGCAAACTCTTGGGAGAAAGCCGTCAGGAAGTACGCCAGTTACTAAGGACAAAACCTCAACATATCTTTTCACT
TCTGGTGGGACTGAAGGCAATAATACTACCATCATTTGGCTACTGTCTTCGTACCAAGAAACAAGGAAAAACATATCATACAA
CTGCCATCGAGCACCATTGCTGTCTTGAACAATTTGATTACTTGGTTCAACACTTTGGGTTTGAAGCAACCATTTATCCAGCCA
GAAAATCAAGAAATCACAGCCAGCAAAATTCAAAAGGCTTTACGTGACGATACGATTTTGGTTTCTACCATGTTTGTCAATA
ATGAGACAGGAAACCTACTGCCATCGCTGAAATTTGGCCAAATCTCAAGCAACACCCCTGCTCATCATGTTGATGCAAT
TCAGGCTATTGGTAAAATCCCAATTCATTTCAGAAGAAATTTGGGCATTGATTTTCTCACTGCTTCTGCCACAAAATTCATGGTC
CTAAGGGAATCGGTTTTCTCTACGCATCTAGCATTTGATTTTCTCTATCTACATGGCGGAGACCAGGAACAGAAAAAACG
TGCAGGAACCTGAAAATCTGCCATTTGTAGGCTATGGTTGCGCCCTAAAAGAAGACCTAGAAAAACAAGAAGAACATTT
TCAACATGTACAAAATCTAGAAAATGCTTTCTGCGAGAGTGGAGGCAATTCAGTATTACCTGAATAGGAAAAACATCAT
CTCCCTTATGTTCTCAATATTGGATTCTCTGGTCAGAAAAATGACCTCTTACTCCTTCGGCTAGATTTAGCTGGAATTTCAATC
TCTACTGGCTCAGCCTGTACTGCAGGCGTTGTCCAATCCAGCCATGTTCTTGAAGCCATGTATGGCGCAAAATTCAGAACGCTT
GAAGGAATCCCTTCGCATCAGTTTGTGCGCACAAAATACCGTTGAAGACCTACAAACCCCTCGCAAAAACCTTAAAAGAAATT
ATCGGAGGTTAG

4172.1 (SEQ. ID. NO. 297)

ATGTTATTCAAATTATCTAAGGAAAAAATAGAGCTAGGCTTATCTCGTTTATCGCCAGCCCGTCTGATTTTTTTTGGATTGTC
TTGGTCATTTTACTAGGCTCTCTTCTTTTGGAGCTTGGCCCTTTGTCCAAGTTGAAAGCTCACGAGCGACTTATTTTATCATCTTT
TCACTGCTGTCTCTGCACTGTGTGACGGGTCTCTCAACCCCTTCCAGTAGCTCACACCTATAATATCTGGGGTCAAATAATC
TGTTTGTCTTTGATTTCAGATCGGTGGTCTAGGGCTCATGACCTTTATTTGGGTTTTCTATATCCAGAGCAAGCAAAAAGCTTAG
TCTTCGTAGCCGTGCAACTATTTCAGGATAGTTTATGTTTATGGAGAACTCGATCTTTGAGAAAAGTTTGTCTATTCTATTTTCT
CACGACCTTTTGGTTGAGAGCTTGGGAGCTATTTTGCTTAGTTTTCGCCCTTATTCCTCAACTTGGCTGGGGACGTGGTCTTTT
TAGTTCCATTTTTCTAGCGATCTCAGCCTTCTGTAATGCCGGTTTTGATAATTTAGGGAGCACCAGTTTATTTGCTTTTCAGAC
CGATTTACTGGTCAATCTGGTGATTGCAAGCTTGATTATTACAGCGCGCCTTGGTTTATGGTCTGGTTTGATTGGCTGGTCA
TGTAAGGAAGAAAGAAAAAGGACGTCTGCACTTTTCATACGAAGCTTGTAATTTTACTATATTGACTATAGGTTTGTGTTATTTGGAA
CAGCAACTACTCTCTTTCTTGAGTGGAACAATGCTGGAACGATTGGCAATCTCCCTGTTGCCGATAAGGTTTTAGTTAGCTTT
TTTCAAAACAGTGACGATGCGAACAGCTGGCTTTTCTACGATAGATTATACTCAGGCTCATCCTGTGACTCTTTTGATTTATATC
TTACAGATGTTTTCTAGGTGGGGCACCTGGAGGAACAGCTGGGGGACTCAAGATTACGACATTTTTTGTCTCTTGGCTTTTGC
ACGAAGTGAGCTTCTAGGCTTGCCTCATGCCAATGTTGCGAGACGAACGATCGCGCCGCGAACGGTTCAAAAATCCTTTAGT
GTCTTTATTATCTTTTTGATGAGCTTCTTGATAGGATTGATTCTGTAGGGATAACAGCCAAAGGCAATCCTCCCTTTATCCAC
CTCGTATTTGAAACCATTTACGCTCTTATGATCAGTTGGTGTAAACGGCAATCTGACTCCTGACCTTGGGAAATTTGGCTCTCAG
TGTTATCATGCCACTTATGTTTATGGG
ACGAATTGGTCCCTTGACCTGTTTGTAGCTTGGCAGATTACCATCCAGAAAAGAAAGATATGATTCACTATATGAAAGCA
GATATTAGTATTGGTTAA

4172.2 (SEQ. ID. NO. 298)

ATGTCAGATCGTACGATTGGAATTTTGGGCTTGGGAATTTTTGGGAGCAGTGTCTAGCTGCCCTAGCCAAGCAGGATATGA
ATATTATCGTATTGATGACCACGCAGAGCGCATCAATCAGTTTGAGCCAGTTTTGGCGCGTGGAGTGATTGGTGACATCAC
AGATGAAGAATTATTGAGATCAGCAGGGATTGATACCTGCGATACCGTTGTAGTCGCGACAGGTGAAAAATCTGGAGTCGAGT
GTGCTTGGGTTATGCACTGTAAGAGTTTGGGGGTACCGACTGTTATTGCTAAGGTCAAAAGTCAGACCGCTAAGAAAGTGC
TAGAAAAGATTGGAGCTGACTCGGTTATCTCGCCAGAGTATGAAATGGGGCAGTCTCTAGCACAGACCATTTCTTTCCATAA
TAGTGTGTGCTTTTTCAGTTGGATAAAAAATGTGTCTATCGTGGAGATGAAAATTCCTCAGTCTTGGGAGGTCAAAAGTGA
GTAAATTAGACCTCCGTGGCAATACAATCTGAATATTTGGGTTTCCGAGAGCAGGAAAAATCCCCATTGGATGTTGAATTT
GGACCAGATGACCTCTTGAAGCAGATACCTATATTTTGGCAGTCATCAACAACAGTATTTGGATACCCTAGTAGCATTTGA
ATTCGTAA

4172.3 (SEQ. ID. NO. 299)

ATGAAGTTATTGTCTATCGCAATTTCTAGCTATAATGCAGCAGCCTATCTTCATTACTGTGTGGAGTCGCTAGTGATTGGTGG
TGACCAAGTTGGGATTTTGAATATCAATGACGGGTCTCAGGATCAGACTCAGGAAATCGCTGAGTGTTTATGCTAGCAAGTAT
CCTAATATCGTTAGAGCCATCTATCAGGAAAAATAAATGCCATGGCGGTGCGGTCAATCGTGGCTTGGTAGAGGCTTCTGGGC
GCTATTTTAAAGTAGTTGACAGTGATGACTGGGTGGATCCTCGTGCCCTACTTGAAAAATCTTGAACCTTGCAGGAACTTGAG
ACGAAAGGTCAAGAGGTGGATGTTTGTGACCAATTTTGTCTATGAAAAGGAAGGGCAGTCTCGTAAGAAGAGTATGAGTT
ACGTTTCACTGTCTTGCCTGTTTCGGCAGATTTTGGCTGGGACCGTGGGAAATTTCTCCAAAGGCCAGTATACCATGATGCAC
TCGCTGATTTATCGGACAGATTTGTTGCGTGCTAGCCAGTTCTAA

4172.4 (SEQ. ID. NO. 300)

ATGAAATTCAATCCAAATCAAAGATATACTCGTTGGTCTATTCCGCCGTCTCAGTGTCGGTGTTCCTCAGTTGTTGTGGCTAG
TGGCTTCTTTGTCCTAGTTGGTCAGCCAAAGTTCTGTACGTGCCGATGGGCTCAATCCAACCCCAAGGTCAAGTCTTACCTGAAG
AGACATCGGGAACGAAAGAGGGTGACTTATCAGAAAAACAGGAGACACCGTTCTCACTCAAGCGAAACCTGAGGGCGTTA
TCGGAATACGAATTCACCTCCGACACCTACAGAAAGAAGTGAAGTGAAGCGAGGAAACAAGCCCTTCTAGTCTGGATACAA
TTTTGAAAAAGATGAAGAAGCTCAAAAAAATCCAGAGCTAACAGATGTCTTAAAGAAACTGTAGATACAGCTGATGTGGA
TGGGACACAAGCAAGTCCAGCAGAACTACTCCTGAACAAGTAAAGGTGGAGTGAAAGAAAAATACAAAAGACAGCATCG
ATGTTCTCTGCTGCTTATCTTGAAAAAGCTGAAGGGAAAGGTCTTTCACTGCCGGTGTAAACCAAGTAATTCCTTATGAACTA
TTCGCTGGTGATGGTATGTTAACTCGTCTATTACTAAAAGCTTCGGATAATGCTCCTTGGTCTGACAAATGGTACTGTA
TCCTGCTTTACCTCCTCTTGAAGGATTAACAAAAGGGAAATACTTCTATGAAGTAGACTTAAATGGCAATACTGTTGGTAAAC
AAGGTCAAGCTTTAATTGATCAACTTCGCGCTAATGGTACTCAAACCTATAAAGCTACTGTTAAAGTTTACGGAATATAAGA
CGGTAAGCTGACTTGACTAATCTAGTTGCTACTAAAAATGTAGACATCAACATCAATGGATTAGTTGCTAAAGAAACAGTT
CAAAAAGCCGTTGCAGACAACGTTAAAGACAGTATCGATGTTCCAGCAGCTACCTAGAAAAAGCCAAAGGGTGAAGGTCCA
TTCACAGCAGGTGTCAACCATGTGATTCCATACGAACTCTTCGAGGTGATGGCATGTTGACTCGTCTCTTGCTCAAGGCATC
TGACAAGGCACCATGGTTCAGATAACGGCGACGCTAAAAACCCAGCCCTATCTCCACTAGGCGAAAAACGTGAAGACCAAAGG
TCAATGCTTCTATCAAGTAGCTTGGACGGAATGTAGCTGGCAAGAAAAACAAGCGCTCATTGACCAAGTTCCGAGCCTAA
GGTACTCAAACCTACAGCGCTACAGTCAATGTCTATGGTAAACAAAGACGGTAAACCCAGACTTGGACAACATCGTAGCAACTA
AAAAAGTCACTATTAACATAAACCGGTTAATTTCTAAAGAAACAGTTCAAAAAGCCGTTGCAGACAACGTTAAAGACAGTAT
CGATGTTCCAGCAGCCTACCTAGAAAAAGCCAAAGGGTGAAGGTCCATTACAGCAGGTGTCAACCATGTGATTCCATACGAA
CTCTTCGACAGGTGATGGTATGTTGACTCGTCTCTTGTCTAAGGCATCTGACAAGGCACCATGGTTCAGATAACCGGTGACGCTAA
AAACCCAGCCCTATCTCCACTAGGTGAAACGTGAAGACCAAAGGTCAATACTTCTATCAATTAGCCTTGGACGGAATGTG
GCTGGCAAGAAAAACAAGCGCTCATTGACCAAGTTCCGAGCAACCGTACTCAAACCTACAGCGCTACAGTCAATGTCTATG
GTAACAAGACAGTGGTGAACAGTTCGAGCAACATCGTAGCAACTAAAAAGTCACTATTAACATAAACCGGTTAATTTCTAA
AGAAACAGTTCAAAAAGCCGTTGCAGACAACGTTAAGACAGTATCGATGTTCCAGCAGCCTACCTAG

4172.5 (SEQ. ID. NO. 301)

ATGAACTAAAAAGTTATATTTTGGTTGGATATATTATTTCAACCCCTTAACCATTTTGGTTGTTTTTGGGCTGTTCAAAAA
ATGCTGATTGCGAAAGGCGAGATTTACTTTTTGCTTGGGATGACCATCGTTGCCAGCCTTGTGGTGTGGGATTAGTCTCTT
TCTCCTATTGCCAGTCTTACGTGCTTGGGCAAACTCAAGGAGCATGCCAAGCGGGTAGCGGCCAAGGATTTTCTTCAAAAT
TGGAGGTTCAAGGCTCTGAGAAATTCAGCAATTAGGGCAAACCTTTAATGAGATGTCCATGATTTCAGGTAAGCTTTGAT
TCCTTGAAGAAAGCGAACGAGAAAAAGGGCTTGATGATTGCCAGTTGTCGCATGATATTAAGACTCCTATCACTTCGATCC
AAGCGACGGTAGAAGGGATTTTGGATGGGATTATCAAGGAGTCGGAGCAAGCTCATTATCTAGCAACCATTTGGACGCCAGA
CGGAGAGGGTCAATAAACTGGTTGAGGAGTTGAATTTTTTGACCCTAAACACAGCTAGAAATCAGGTGGAAACTACCAAGTAA
AGACAGTATTTTTCTGGACAAGCTCTTAATTGAGTGCATGAGTGAATTTCAAGTTTTGATTGAGCAGGAGAGAGAAGAGATGTCC
ACTTGCAGGTAATCCAGAGTCTGCCCGATTGAGGGAGATTATGCTAAGCTTTCTCGTATCTTGGTGAATCTGGTCGATAAC
GCTTTTAAATATTCTGCTCCAGGAACCAAGCTGGGAAGTGGTGGCTAAGCTGGAGAAGGACCAAGCTTTCAATCAGTGTGACCG
ATGAAGGGCAGGATTGCCCCAGAGGATTGGAAAAATTTTTCAACCGCCTTATCGTGTGCGAAACCTCGCGTAACATGAA
GACAGGTGGTCAATGATTAGGACTTGCAGTTGCGCGTGAATTTGCCCATCAATTTGGGTGGGGAATACAGTACGACGCCAG
TACGGTCTAGGAAGTACCTTTACCCTCGTTCTCAACCTCTCTGGTAGTGAATAAAGCCTAA

4172.6 (SEQ. ID. NO. 302)

ATGTTTGGTCAAACGGCTCAACATGGTCTTACGAATAGCCTGAAAGACTTCTGGATTTTTCTGCTGAATATAGGTCCACAATT
GGCGTTTTTTTGGCAGATGCTCCGCTGTTCCAGATCGGTTGAGCAGGGTACTGGAAATCACCGTCTGTGAGTTCAATATGATT
AGCAGATATTCTCGCATTTTGGGATGACTCACTTGGGCAAAATCAAGTTGGTCTATCAAGAGTCGATTGACCTTGAGTTGCTG
GTCAATGCAATTAATCATCACTTGTCTATTGACAGACTGGTCTCAGCCCAATCAAAATACGATAGAAATCGACAGGCAG
TAGTACATGGTCTTGACCTGCTGAAGGGGCGTAAAGACAAAGAGATTATCGACATAAAAAAGTATGTTTCAGGCAGTTAGAACT
GGCTAGCACGCAACAAATCTGTCCGATAAATCAGCGAGTGCATCATGGTATACTGGCCTTTGGAGAAATTTCCGACCTGGTC
CCAGCCAAAAATCTGCCGAACAGGCAAGACTGA

4174.1 (SEQ. ID. NO. 303)

ATGGAACATTAGCAACTTATTTTTCAACCTATGGAGGAGCTTTCTTCGCTGCATTGGGAATTGTATTGGCGGTTGGATTAAG
CGGTATGGGGTCTGCTTATGGAGTTGGTAAGGCTGGGCAATCTGCCGACGCTTACTGAAAGAACAGCCTGAAAAAGTTTGGC
TCAGCTTTGATATTGCAATTATTGCCCGGAACACAAGGATTATATGGTTTTGTTATTGGAATTTTAAATTTGGTTGCAATTA
CCAGAACTTCCTTTAGAAAAAGCGGTTGCTTATTTCTTTGAGCTCTTCCAATTGCTATTGTAGGATACTTTTCAGCTAAGCAT
CAAGGAAATGTAGCAGTAGCGGGAATGCAAACTCTGGCTAAAAGACCAAAAGAAATTCATGAAGGGAGCAATTTTAGCTGCC
ATGGTAGAAACCTATGCAATTCTTGCTTTTGTGCTATCATTCATTTTGACCCTTCGTGTATAA

4175.2 (SEQ. ID. NO. 304)

ATGTTAAAAATCAGAAAAACAATCACGTTATCAAATGTTAAATGAAGAATTGTCTTCTATTGGAAGGCGAAACCAATGTTT
TGGCTAATCTTTTCAAACGCCAGTGCTCTCATAAAATCACGTTTCTTAATACCGTATTTGCAGGCTTTTATTTGTTTCGATGGAA
AGGAATTTGGTTTTAGGCCCTTCCAAGGAGGTGTTTCTCGTATCCGATTGCACTAGGCAAGGGTGTGTTGTTGGTGAGGCAGCT
CACTTTCAGGAAAGCTTTATTTGTTGGAGATGTGACGACCTATCTCAACTATATTTCTTGTGATAGTCTAGCTAAAAAGTGAAT
TGTGGTGCCGATGATGAAGAATGGTCAGTTACTTGGAGTTCTGGATCTGGATTCTTCAGAGATTGAGGATTACGATGCTATGG
ATCGAGATTATTTGGAACAATTTGTGCTATTTTGCTTGAAGAACAGCATGGGACTTTACGATGTTTGAGGAAAAATCTTAA

4175.3 (SEQ. ID. NO. 305)

ATGTCAGTATTAGAGATCAAAGATCTTCACGTTGAGATTGAAGGAAAAAGAAATTTTAAAGGGGTTAACCTGACCCTGAAAA
CAGGAGAAATTGCCGCTATCATGGGACCAAAATGGTACAGGTAATTCGACTCTTTCTGCCGCTATCATGGGAAATCCAAACTA
TGAAGATACTTAAAGGTGAAGTTTGTGTTGATGGCTTAAACATCCTTGAAGTGGATGAGCGTCCGCTATGGCACTT
TTCTTTGCTATGCAATACCCATCAGAAATCCCTGGAATTACCAATGCTGAGTTTCTTCGTGCCGCTATGAAATCGCGGTAAAGA
AGATGATGAGAAGATTTAGTTCTGTGAGTTTATTACTAAGCTAGATGAAAAAATGGAATTGCTCAACATGAAAGAGAAATG
GCAGAGCGTTACCTCAACGAAGGCTTCTCTGGTGGTGAGAAAAACGCAATGAAATTTCTTCAACTTTTGTGTTGGAGCCAA
CATTTGCTCTTTTGGACGAGATTGACTCAGGCTTGATATTGACGCTCTTAAAGTTGTGTCTAAAGGTTGCTCAATGCCATGCGT
GGTGAAGGTTTTGGTGTATGATCATCACTCACTACCAACGCTCTTTGAACTATATCACACCTGATGTGGTACAGTGATGAT

GGAAGGTCGTGTTGTCCTTTCTGGTGGTCCAGAATTGGCTGCGCGTTTGAACGTGAAGGATACGCAAAATTAGCTGAAGAA
CTTGGCTACGACTACAAGGAAGAATTGTAA

4174.4 (SEQ. ID. NO. 306)

ATGCCCTACAAAAGACAAAAGGAGTTTTCAATGGCACTTTCTAACTAGATAGCCTTTATATGGCAGTGGTAGCAGACCATT
CGAAAAATCCACATCACCAAGGGAAGTTAGAAGATGCTGAGCAAAATCAGTCTCAACAATCCGACTTGTGGGGATGTCATCA
ACCTCTCTGTCAAGTTTGATGCAGAGGACCGTTTGGAAAGATATTGCTTTTCTAAATTCAGGATGCACGATTTCAACTGCTTCT
GCTAGTATGATGACAGATGCCGTTTATAGGAAAAACCAACAAGAAATTTTAGAACTGGCGACTATTTTTCTGAAATGGTTC
AAGGGCAAAAAGATGAGCGTCAAGACCAACTTGGAGACGCGGCATTCTTGTACGGTGTGGCCAAATTCCTCAAAGAATCA
AGTGTGCAACCCCTAGCTTGAATGCCCTTAAGAAAAACAATTGAAAATCAAGAAAAACAGTAA

4175.5 (SEQ. ID. NO. 307)

ATGAAAATTCAGACCTATTGAGAAAAGATGTCAATGTTGCTAGATTTGCAGGCAACTGAAAAAACAGCTGTCTCGACGAGA
TGATTAATAAATTTGACAGACCACGGTTATGTAAACAGATTTTGAAACATTTAAAGAAAGGAATTTTGGCGCGTGAAAGCTTTGAC
TTCTACTGGTTTGGGTGATGGAATCGCAATGCCTCACAGCAAAAACGCTGCTGTCAAAGAAGCGACAGTTCTATTTGCTAAG
TCAAATAAGGGTGTGACTACGAGAGCTTGGATGGACAAGCAACTGACCTCTTCTCATGATTGCAGCTCCAGAAGGTGCCA
ATGATACTCACTTGGCAGCCTTGGCAGAATTGTCTCAATAGTCTGATGAAAGACGGTTTTCAGACACAACTTCGTCAGCAAC
ATCTGCAGACCAAGTTATCGAACTTTTGGACCAAGCTTCAGAAAAAACTGAGGAACCTTGTCAAGCACCTGCTAATGACTCT
GGTGACTTTATCGTAGCTGTACAGCTTGTACAACAGGTATTGCCACACTTACATGGCCCAAGAAAGCCCTTCAAAAAGTAG
CTGCTGAAATGGGGTGTGATCAAGGTGCAAAACCAACGGTGTAGCGGTGTTGGAATCAACTAACTGCAGAGATATCCG
TAAGGCTAAAGCTATTATCAATTGCAGCAGACAAGGCCGTTGAAATGGATCGATTGTATGGAAAAACCATTGATCAATCGTCCA
GTTGCTGACGGTATCCGTAAGACAGAAGAGCTAATTAACCTGGCTCTTTCAGGAGATACTGAAGTCTACCGTGCCGCTAATG
GTGCCAAAGCTGCAACAGCCTCTAACGAAAAACAAAGCCTTGGTGGTGCCTTGTACAAACACTTGTATGAGTGGTGTATCTCA
AATGTTACCATTCGTTATCGGTGGTGTATCATGATTGCCCTTGCCTTCTTGATTGACGGTGCCTTGGGTGTTCCAAATGAAAA
CCTTGGCAATCTTGGTTCTTACCATGAGTTAGCTTCTATGTTTCATGAAAAATGGTGGAGCTGCCTTGGTGTGATGCTTCCAGT
CTTTGGCGGTATGTTGCCCTACTCTATTGCTGAAAAACCGGGTGTGGTAGCAGGTTTCGTGGCTGGTGTATGCCAAAGAAG
GTTTTGCCTTTGGTAAAAATTCCTTATGCCGAGGTGGTGAAGCAACTTCAACTCTTGCAGGTGTCTCATCTGGTTCTCCTAGGTG
CCCTTGTGGTGGATTATTCGAGGTGCCTTGGTTCTTGGCATCAAGAAATACGTTAAAGTTCCTCGTTCTCGTCAAGGTGCT
AAATCAATCCTTCTATTGCCACTTCTTGAACAATCTTGACAGGATTGTTATGCTAGCTGTGAATATCCCAATGGCTGCAAT
CAACACTGCTATGAATGACTTCTAGGCGGTCTTGGAGGAGGTTTCAAGTGTCTTCTTGGTATCGTCTTGGTGGAAATGATGG
CTGTTGACATGGGTGGACAGTTAATAAAGCAGCTTATGCTTGGTACAGGTACGCTTGCAGCAACTTCTTCTTCAAGGTGGT
TCTGTAGCCATGGCAGCAGTTATGGCTGGAGGAATGGTGCCACCACCTTGCAATCTTGTGCGCAACTCTTCTTTTCAAAGATAA
ATTTACTAAGGAAGAACGTAACCTCTGGTTTGTACAAACATCATATGGGCTTGTCAATTTATCACTGAGGGAGCGATTCCATTG
GTGCCGTGACCCAGCTCGTGGATTCCAAGCTTATCCTTGGTTCAGCAGTAGCAGGTGGACTCGTTGGTCTTACTGGTATC
AAACTCATGGCGCCACACGAGGAATCTTCGTTATCGCCCTTACTTCAAATGCTCTCCTTACCTCGTTTCTGTCTTGGTAGGA
GCAATCGTAAGTGGTGTGGTTTATGGTTACCTACGCAAAACCAAGCATAA

4175.6 (SEQ. ID. NO. 308)

ATGGCAACAAGAAATACAAGTACAACAAGACGGAGACCGTCTAAAGCAGAAGTGGAAAGAAAAGGCGATTCAACGAAT
GTTGATTTTCGTTAGGAATTCGCGATTTTATGATTTTTCGACGCTTCAAATAGGGGCTGCAGGTATAACCCCTTTATAATTTAAT
TCGCTTGCTAGTGGGTAGCCTAGCTTATCTGGCGATATTCGGCTTATAATCTATCTCTTCTTTTCAAGTGGATACGAAAAACA
GGAAGGACTCTTATCTGGCTTTTTCACCATATTTGCTGGCTTACTCTTGATTTTGGAGGCTACTTGGTTTGGAAATATGGTTT
GGACAAGTCCGTTCTAAAAGGGACCATGGCTCAGGTTGTGACAGATCTGACTGGTTTTCGAACGACTAGCTTTGCTGGAGGG
GGCTTGATCGGGGTCGCTCTTATATTTCCACAGCCTTCTCTTTTCAAATATCGGAACCTACTTTATTGGTTCTATCTTGATT
TAGTGGTTCTCTCTCAGTACGCCCTTGGTCTGTTTACGATATTGCTGAATTTTTCAGTAGAGGCTTTGCCAAATGGTGGGAA
GGGACGAGCGCTCGAAAGAGGAACGCTTGTGCAAAAGAAAGGCTCGCCAAAGGGCTGAGAAAGGGTGAATGAGTT
AGAACAAGAAGAGACTGAAAAAGCCTTACTCGATTGCTCTCTGTTGATATGGAACGGGTGAAATCTGACAGAGGAAGC
TGTTCAAAATCTTCCACCTATTCCAGAAGAAAAGTGGGTGGAACAGAAATCATCTGCTCAAGCTGAACCTAAATTCCT
GAACAGGAAGATGACTCAGATGACGAAGATGTTCAAGTCTGATTTTTCAGCCAAAGAAAGCCCTTGAATACAAACTTCCAAAGCT
TACAACCTTTTGCACCAGATAAACCAAAAAGATCAGTCTAAAGAGAAGAAAATTTGTCAGAGAAAATATCAAAATCTTAGAAG
CAACCTTTGCTAGCTTTGGTATTAAGGTAACAGTTGAACGGGCGGAAATTTGGGCCATCAGTGACCAAGTATGAAGTCAAGCC
GGCTGTTGGTGTAAAGGCTAACCGCATTTCCAATCTATCAGATGACCTCGCTTAGCCTTGGCTGCCAAAGATGTCGGGATG
AAGCAACAAATCCCTGGGAAATCCCTAATCGGAATTTGAAGTGCCCACTCCGATATTGCCACTGTATCTTCCGAGCAATG
GGAACAATCGCAACGAAAGCAGAAAATTTCTTGAAATTCCTTAGGGAAGGCTGTTAATGGAACCGCAAGAGCTTTTGAC
CTTTCTAAAAATGCCCACTTGTAGTTGCAGGTTCAACGGGTTACAGGGAAGTCAGTAGCAGTTAACGGCATTATTGCTAGCAT
TCTCATGAAGGCGAGACCAGATCAAGTTAAATTTATGATGGTTCGATCCCAAGATGGTTGAGTTATCTGTTTACAATGATATTC
CCCACCTCTTGATTCCAGTCTGTGACCAATCCACGCAAAAGCCAGCAAGGCTCTGCAAAAAGGTTGTGGATGAAATGGAAAACCG
TTATGAACTCTTTGCCAAGGTGGGAGTTCGGAATATTGCAGGTTTAAATGCCAAGGTAGAAGAGTTCAATTCACAGTCTGAGT
ACAAGCAAAATCCGCTACCATTCATTGTCTGTATTGTGGATGAGTTGGCTGACCTCATGATGGTGGCCAGCAAGGAAGTGG
AGATGCTATCATCCGCTTTGGGCAGAAGGCGCGTGTGCAGGTATCCACATGATTCTTGGCAACTCAGCGTCCATCTGTTGATG
TCATCTCTGGTTTGATTAAGGCCAATGTTCCATCTCGTGTAGCATTGCGGTTTCATCAGGAACAGACTCCCGTACGATTTTGG
ATGAAAATGGAGCAGAAAAAATCTTGGTTCGAGGAGACATGCTCTTTAAACCGATTGATGAAAATCATCCAGTTCTGCTCCA
AGGCTCTTTATCTCGGATGACGATGTTGAGCGCATTTGTAACCTCAAGACTCAGGCAGATGCAAGTACGATGAGAGT
TTTGATCCAGGTGAGGTTTCTGAAAATGAAGGAGAATTTTCGGATGGAGATGCTGGTGGTGTATCCGCTTTTGAAGAAGCTA
AGTCTTTGGTTATCGAAACACAGAAAGCCAGTGCCTTATGATTACGCGTCTTATCAGTTGGATTTAACCGTGCGACCCGT
CTCATGGAAGAACTGGAGATAGCAGGTGTCATCGGTCCAGCTGAAGGTACCAAACTCGAAAAGTGTACAACAATAA

4176.1 (SEQ. ID. NO. 309)

ATGAGTTATTTAAAAAATATAAATTCGATAAATCCCAAGTTCAAACCTTGGTATGCGAACCTTTAAAAACAGGTATTGCTGTTTT
TCTAGTTCTTGATTTTGGCTTTTGGCTGGAAAGGTCTTCAAATTTGGTCTTTGACAGCCGTTTTAGCCTGAGGGAGAG
TTTTGATGAGAGTGTTTCAATTTGGGACTTCGCGTATTCTAGGAAATAGTATCGGTGGACTCTATGCCTTGGTCTTCTTCTTATT
AAATACCTTTTCCACGAAGCCTTTTGGGTGACCTTGGTAGTTGTTCCAATCTGCACCATGTTAAACATTATGACAAATGTAG
CCATGAATAACAAAGCAGGGGTTATTGGTGGTGTAGCAGCTATGTTAATCATTACCTATCAATTCCAAGTGGTGAGACAAT
TTTGTACGTTGTTATCGAAACACAGAAAGCCAGTGCCTTATGATTACGCGTCTTATCAGTTGGATTTAACCGTGCGACCCGT
TCTCTTTTATAGAGAAAAAAGAAAAATAA

4178.2 (SEQ. ID. NO. 310)

ATGAATAAATCAGAAACACCGCCACCAACTTATACGCGCTCTTATCACAAAAACAAGATTCATACACAGGCTGAGTTGCAAG
CCCTTCTTGCTGAGAACGACATTCAAGTAACCCAGGCAACCCCTCTCACGGCAGATCAAAAAATATGAACCTATCAAAAGTCCG
CGAAGAAGATAGCGCTTATTATGTTCTTAACAATGGTTCATCTCAAAATGGGAAAAACGCTCTCGAAGCTCTACATGGAAGAC
GCCCTTGCTGAGTGGCCCAAGTTCACACCAAGTCTACTAAAAACCCCTTCTGGACTGGCTCAATCCCTTTGGTTCTATCATT
GATACTTTGAGCTTCCCTGACGCTATCGCTACCCCTTTGTGGTAATGATGTCTGTCTTATCATCTGTGAAGATGCAGATACTGCT
CAAAAGTGCTTTGAAGAACTGAAAAAATTCGCCCCACCATTTTTCTTTGAAGAATAA

4179.1 (SEQ. ID. NO. 311)

ATGAAAAGTATAAAATTAATGCTCTATCTTACATGGGAATTCGTGTCTTGAATATTTATTTTTCCCATCCTAACTGGAACCTA
TGTCGCGCGTGTCTTGGACCGAACTGACTATGGTTACTTCAACTCAGTCGACACTATTTTGTCAATTTTTCTTGGCCCTTTGCAAC
TTATGGTGTCTATAAATACGGTTTAAAGGGCTATCAGTAATGTCAAGGATAACAAAAAAGATCTTAACAGAACCTTTTCTAGTC
TTTTTTATTTGTGCATCGCTTGTACGATTTTGACCACTGCTGTCTATATCCTAGCCTATCCTCTCTTCTTTACTGATAATCCAAT
CGTCAAAAAAGGTCTACCTTGTATGGGGATTCAACTCATTGCCAGATTTTTCAATCGAATGGGTCAATGAAGCTCTGGA
ATTACAGTTTTCTCTTTACAAAACTGCCTTCATCCGATCTGTATGCTGGTCTCTATTTTCTTATTTGTTAAAAATGAACACG
ATATTGTGTCTATACACTTGTGATGAGTTTATCGACGCTGATTAACTACCTGATTAGTTATTTTGGATTAAAAAGAGACATCA
AACTTGTAAAAATTCACCTAAGTGATTTTAAACCACTCTTCTCCCTCTGACAGCCATGTTAGTCTTTGCCAATGCCAATATGC
TCTTCACTTTTTAGATCGCCTCTTCTCGTTAAAAACAGGGATGTATGTCAACGTTAGTTACTATACCATAGCTCAGCGAATTG
TGACCGTTATAGCTGGGTTGTAACAGGTGCAATTGGAGTGAGTGTCCCTGCTCAGTTACTATCTGGGAAAGGAGACAA
AGAAGCCTATGTTTCTGTGTTAATAGAGGTAGTGAATCTTTAACTTCTTTATCATTCCACTGAGTTTTGGACTCATGGTTTT
AGGACCAAAATGCCATCCTACTTTACGGTAGTGAATAATATATCGGAGGCGGCATCTTGACCTCTCTCTTCCGCTTTTCGTACGA
TTATCCTGGCCTTAGATACCAATCTTGGTTCCCAAAATCTCTTTACCAATGGCTATGAAAAACGTATCACAGTCTATACAGTCT
TTGCTGGGCTACCAATTTGGGCTTGAATAGTCTCTCTTTTTCACCATATCGTGGCTCTGAATACTACTTACTGACAACTA
TGCTATCAGAGACTTCTCTACTTGTCTTCTATATCATTTTCATCCATAGAAAACAACTCATCCACTTGGGACATATCTTTAGCT
ATAGTGTTCGATATCTCTCTTTTCACTTTCCCTTTGTAGCAATTTATTTCCGTGATTAATTTCCGTGTATCCTGTAGATATGGTCAT
TAATTTGCCATTTTGATTA
ATACTGGTTTGATTGTCTGTCTATCAGCTATCTCTTATATTAGTCTACTTGTCTTCACAAAAGATAGCATTTTCTATGAATTTTT
AAACCATGCTCTAGCCTTAAAAAATAAATTTAAAAAATCATAG

4179.2 (SEQ. ID. NO. 312)

ATGAAACAATAACCGTTGAAGATGCCAAAACAAAATTGAATTAGAAATTTTGGATTATATTGATACTCTCTGTA AAAAGCACA
ATATCAACTATATTATTAACACGGTACTCTGATTGGGGCGGTTTCGACATGAGGGCTTTATCCCTTGGGACGACGATATTGAT
CTGTCCATGCCTAGAGAAGACTACCAACGATTTATTAACATTTTCAAAAGGAAAAAGCAAGTATAAGCTCCTATCTCTAG
AAACTGATAAGAACTACTTTAACAACCTTATCAACACCGACGACTAGCAATAAAATTTGATAGCTCGAAATACAAAAAC
CTATGAGTCTGGTATCTTTATCGATATTTCCCTATAGATCGCTTTGATGATCCTAAGGTCAATTGATACCTGTTATAAACTGGA
AAGCTTCAAACTGCTGTCTTTTCAAGTAAACATAAAAAATATTGCTATAAGGATAGCCTTTTAAAAAGATTGGATACGAACAGCCT
TCTGGTTACTCTCTCGACCGGTTTCTCTCGTTATTTTGCAAAATAAAATTCGAGAAAGAAATTCAAAAATATAGTCGTGAAAAAT
GGGCAATATATGGCTTTTATCCCTTCAAAATTTAAGGAAAAGGAAGTCTTCCCAAGTGGTACCTTTGATAAAACAATCGATTT
ACCCTTTGAGAATTTAAGCCTTCTGACCTGAAAAATTTGATACTATTTTGACACAATTTTATGGAGATTATATGACCCCTAC
CACCAGAAGAAAAACGCTTCTACAGTCATGAATTTACGCTTATAAATTGGAGGATTAG

4179.3 (SEQ. ID. NO. 313)

ATGATAAAAAATCAATCACTAACCATCACACAAAAACAAAGATTTACGAGATCTTGTATCTGACCTAACCATGACCATCCAAG
ACGGGAAAAAGGTTGCTATTATTGGTGAAGAAGGAAATGGCAAAATCAACCTTACTTAAAAATTTTAAATGGGGGAAGCTTTGTCT
TGATTTCACTATCAAGGGAAACATCCAATCTGACTATCAGTCACTGGCCTACATTCCTCAAAAAAGTCCCTGAGGACCTAAAA
AAGAAAACTTTACACGACTACTTCTTTTATGATTCTATTGATTTAGACTACAGTATCCTCTATCGTTTGGCGGAGGAATTGCAT
TTTGATAGCAATCGTTTCGAAAGTGACCAAGAGATTGGCAATCTATCAGGGGGCGAAGCTTTGAAAAATTCAGCTTATCCATG
AGTTAGCCAAACCCCTTTGAGATTCTATTTTATGATGAACCTTCAAAATGACCTAGACCTTGAGACAGTTGATTGGCTAAAAGGC
CAGATTCAAAAGACCAGGCAAAACCGTTATTTTCATTTCCCATGATGAAGACTTTCTTCTGAAACGGCAGACACTATTGTTCA
CTTGGCACTGGTCAAAACCCGTAAAGAAGCGGAAACGCTAGTAGAGCATTTAGACTATGATAGCTATAGTGAGCAGAGAAAA
GGCTAAATTTTGCCAAACAAAGTCAGCAAGCTGTCAACACCAAGCAAGCTACGATAAAACCATGGA AAAACATCGGAGAGT
TAAGCAAAATGTAGAAACTGCGCTTCGAGCTACCAAGATAGTACTGCCGCTCGCTATTGGCTAAAAAGATGAAAACTGTC
CTCTCACAAGAAAAACGCTACGAAAAAGGCAAGCTCAGTCCATGACTCAAAAGCCACTTGAAGAGGAACAAATCCAACCTTTCT
TTTCAGACATCCAACCATACCAGCTTCTAAAGTCTTAGTCCAAGTGA AAAAGAAAAATTTGTCCATTGACGACCGAGTTTG
GTTCAAAAACATACAATAACTGTCCGTGGCCAAGAAAAAATTCGGTATTATCGG
GCCAAATGGTGTGGGAAATCAACTCTGTTAGCCAAGTTACAGAGACTTCTGAATGATAAAAGAGAGATTTCACTTGGTTTT
ATGCCACAAAGATTACCACAAAAAATGCAATTGGATTATCCCCAATAGCCTATCTCAGTAAAACTGGGGAAAAAGAGGAA
CTACAGAAAAATCCAATCTCACCTAGCTAGTCTCAATTTTCAGTTATCCAGAAAAATGCAGCATCAAAATTCGCTCCTTATCTGGCGG
ACAACAGGGAAAACTCCTGCTTTTGGATTTAGTCTGCGCAAAACCAAACTTTCTCTGCTGGATGAACCCACACGAACTTTT
CTCCCACTTCTCAACCCCAAAATCAGAAAACTCTTTGTACCTATCCAGGCGGTCTCATCACTGTTTCGATGACCGTCTGTTCT
TAAAAGAAGTCTGCTCGATCATCTATCGCATGACAGAACACGGTTTGAAGCTAGTTAATTTAGAAGATTTATAA

4179.4 (SEQ. ID. NO. 314)

ATGAAACCAAAACATTTTACAACCTTGCTTGCCGAGCAGAAATCTTCCACTTTCCGACCAGCAAAAAAGAACAAATTTGAACGTT
ATTTTGAGCTCTTGAGTCGAGTGGAATGAGAAGTTAATTTGACGGCGATTACGGACAAGGAAGAAGTTTATCTCAAACTTT
TTACGATTGATTGACCCATTCTTCAAGGTTTGAATTTCCCAATGAAACTATCAAACTTCTTGATATCGGGGCTGGGGCAGGAT
TTCTAGTCTACCAATGAAAAATCTCTATCCGGAGTTAGATGTGACCAATTATGATTCACTCAATAAGCGCATCAACTTCTCTA
CAACTCTTGGCTCAAGAACTGGATTTGAACGGAGTTCAATTTCTACCAGGAGCTGCCGAAGATTTTGCCCAAGACAAGAACT
TCCGTGCTCAATATGATTTTGTAAACAGCTCGTGCAGTTTGGCGGTATGCAAGGTCCTATCTGAATTGACTATCCCTACCTTAAGG
TTGGTGGCAAACTATTAGCACTCAAGGCTAGCAATGCGCCTGAGGAATTATTAGAAGCTAAGAATGCCCTCAATCTCCTTTTT
AGTAAGGTGGAAGACAATCTCAGCTACGCCCTACCGAATAGAGATCCGCGCTATATCACAGTGGTAGAAAAAGAAAAAGAAA
CACCATAAATAATCCACGTAAGGCTGGTATGCCAAATAAACCCCACTTTAA

4179.6 (SEQ. ID. NO. 315)

ATGAGTATTAACCTAATTGCCGTTGATATCGACGGAACCCCTTGTCACAGCCAAAAGGAAATCACTCCTGAAGTTTTTCTGC
CATCCAAGATGCCAAAAGAGCTGGTGTCAAAGTCGTGATTGCAACTGGCCGCCCTATCGCAGGCGTTGCCAACTTCTAGAC
GACTTGCAGTTGAGAGACGAGGGGGACTATGTGTAACCTTCAACGGTGCCCTTGTCAGAAACTGCTACAGGACATGAGA
TTATCAGCGAATCCTTGACTTATGAGGATTATCTAGATATGGAATTCCTCAGTCGCAAGCTCGGTGTCCACATGCATGCCATT
ACCAAGGACGGTATCTATCTGCAAAATCGCAATATCGGAAATACACTGTACACGAATCAACCCCTCGTCAGCATGCCATTCT
TCTACCGTACCCCTGAAGAAATGGCTGGCAAGAAATTTGTTAAATGTATGTTTATCGATGAACCAGAAATTTCTCGATGCTGC
GATTGAAAAAATTCAGCAGAAATTTACGAGCGCTACTCCATCAACAAATCTGCTCCTTTCTACCTCGAACTCCTTAAAAAGA
ATGTAGACAAGGGTTCAGCCATTACTCACTTGGCTGAAAAACTCGGATTGACCAAGATGAAACCATGGCAATCGGTGATGA
AGAAAAATGACCGTGCCATGCTGGAAGTCGTTGGAAACCCCGTTGTCATGGAAAAATGGAAATCCAGAAATCAAAAAATCGC
CAATACATCACCAAAACAAATGACGAATCCGGCGTTGCCATGCCATCCGAACATGGGTACTGTAA

4179.7 (SEQ. ID. NO. 316)

ATGACTTGGATTATTCTTGGAGTTATCGCTCTTATTGTTATTTTTGTGATTGTTAGCTATAACGGTTTGGTTAAAAATCGTATG
CAAACCAAGGAGGCTTGGAGTCAGATTGATGTTTCACTTGAACGTCGCAATGACCTCTTGCCAACTTGATTGAGACTGTAA
AAGGTTATGCCAAATATGAAGGTTCTACCCCTGAAAAGGTGGCAGAACTACGTAACCAAGTGCGCGCAGCGACTTACCAGC
AGAAGCTATGAAAGCCAGTGATGCCCTCACTCGTCAGGTTTCAGGTTATTTTGCAGTTGCAGAAAGTATCCAGATTGAAA
GCTAGTGCTAACTTTGTTAAATTTGCAAGAGGAGTTGACAAAACAGAAAAATAAAATTTCTTACTCTCGTCAACTCTATAACA
GTGTTGTGACGAACTACAATGTAAATAGAACTTTCCCGAGCAATATTATCGCTGGAATGTTTGGATTTAAAGCGGCAGA
TTTCTTCAAACACCTGAAGAGGAAAAAGTCGGTTCCTAAAGTTGATTTTAGCGGTTTAGGTGACTAA

4179.8 (SEQ. ID. NO. 317)

ATGTTGTTTGATCAAAATGCAAGCAATAAACGAAAAACCTGGATTGTTGCTGGTATTTTCTACTCTTAGCTCTTGTGGT
TATGCGGTTGGTTATCTTTATAAGATCTGGACTTGGTGGTTTGGTTATGCACTGATTATCGGCTTTATCTACGCTTTGTCT
ATGATTTTCAATCGACAGAGATTGTCTATGCCATGAATGGAGCGCGTGAGGTGGATGAGCAAAACGGCACCAGACCTTACC
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CGACAGGTTCTAATCCTCAAAATGCGGCTGTTGCTGCGCACTTCAAGTCTACTAGCTATCATGAATCGTGAAGAACTAGAAGC
TGTTATGGGACATGAAGTCAGTCATATTCGTAATTATGATATCCGTTATTTTCGACTATTGCAAGTTGCCCTTGCTAGTGCTTAC
CATGCTTTCTAGTATGGCAGGTCGTATGATGTGGTGGGTGGAGCAGGTCGCAGACGAAGTATGATGACCGAGATGGAAAT
GGTCTTGAAATCATTATGCTAGTGGTTTCCCTACTAGCTATTGTACTGGCACCTCTCGCTGCAACCTTGGTTTCAGCTCGCTATT
TCTCGTCAGAGGGAATTTCTGGCAGATGCATCTAGTGTGAGCTGACTCGCAATCCCCAGGGAATGATTAATGCCCTAGATA
AGTTGGCAATAGCAAACTATGAGTCGCCACGTGATGCTAGCAGTGCCTTTATATCAATGATCCTAAGAAAGGTGG
GGGTTCCAAAACTCTTTTATACCCACCCACCTATCTCAGAACGGATTGAACGTTTAAACAGATGTAA

4179.9 (SEQ. ID. NO. 318)

ATGAAATTTAAATATTCAAGAAATTCGTAAGCAGTCTGAAGGTTTGAACCTTTGAACAAACGTTAGATTTAGTTGATGACCTGC
GTGCACGTAATCAAGAAATTTTAGATGTAAAAGATATCCTTGCAAGTTGGGAAAGTACAATATGAAGACCGTATGTATTTCTT
AGATTATCAACTATCTTATACCAATTGTTCTTGCTTCGAGTCGAGTATGGAGCCAGTTGAGTTAGTTGAATCTTATCCAGTCAC
GGAAGTTTTCATGGAAGGGCGCAACTAACCAAGCTAGATCAAGAAAGTTTATAGATGATGACTTGGTCTTGCCCATCGAAATGGG
GAGCTTGACCTTGCTGAGAGTGTATCAGACAATATCCTGCTAAACATTCTATCAAGGTCTTGACGGCTGAAGAAGAAGCTG
GTCAAGGATTTATCTCAGGAAATGACTGGCAAAATCATGACAGAGGAAGAATACCAAGCTCAAAAAGCAGTAAAGAAAGAAAG
AAAACAGTCCTTTTGTGGCTTACAAGGACTATTGACGGAGATGAATAA

4179.12 (SEQ. ID. NO. 319)

ATGGAGTTATTTATGAAAAATCACAACCTATGAAATCTATAAGTTAAAAAAATCAGGTTTGACCAATCAACAGATTTTGAAAG
TGCTAGAAATACGGTGAAAAATGTTGATCAGGAGCTTTTGTGGGTGATATTGCAGATATCTCAGGTTGCCGTAATCCAGCCGTT
TTTATGGAACGTTATTTTCAGATAGACGATGCGCATTTGTGCAAAAGAGTTTCAAAAATTTCCATCTTTCTCTATTTTAGATGAC
TGTTATCCTTGGGATTTGAGTGAAATATATGATGCGCCTGTACTTTATTTTACAAGGGAAATCTTGACCTCTGAAATTTCCCG
AAGGTAGCGGTCGTGGCAGTCGTGCTGTAGCAAAACAGGGAGTCAAGTCAAGTTGAAAAAGTCAATCAAGGCTTGAAAAAT
GAACTGGTTATTGTGAGTGGTCTGGCCAAGGGCATTTGACACAGCAGCTCATATGCGAGCTCTTCAAGATGGCGGAAAAACCA
TTGCAGTGATTGGAACAGGACTGGATGTGTTTTATCCTAAAGCCAATAAACGCTTGCAAGACTACATCGGCAATGACCATCT
GGTTCTAAGTGAATATGGACCTGGTGAACAACCTCTGAAATTTTCAATTTTCTGCCCGTAATCGCATCATTGCTGGACTTTGTC
GTGGTGTGATTGTAGCAGAGGCTAAGATGCGTTCAGTGTGCTTATTCATTCGTTGAGCGAGCAATGGAAAGGACGCGGATGT
CTTTGCTATTCCTGGTAGCATTTTAGATGGACTATCAGACGGTTGCCATCATTGATTCAAGAAGGAGCAAAATTTGGTCACCA
GTGGGCAAGATGTTCTTGCGGAATTTGAATTTAA

4181.1 (SEQ. ID. NO. 320)

ATGAAACGTCAATTAGCCTTGGTCTCTTATGTTGGTGGTCAAGATTCAACAACCTGCCTTTTCTGGGTATGCAACACTATGA
AACAGTCGAAGCTGTACCTTTGCCTACGGCCAACGTCATCACCTCGAAATTCAAATTAAGTAGAGAAATCGCTAAGGAACAG
GGCATTCTGTCACCATATCCTCGATATGTCTCTGCTGGGACAAATCACTGCTCAGCCAGACTTTGCGACGATTTCATATTTCCCTA
CATTCCTGACAAGCTCTGTGTCGAGTCAAAATCCCTCAAACTATATCTATTTAGCTACCGAAACACGGAGATTTCCACGAAA
ACTGTATCAACACCATCGGGAAAGACTTGGTCAACTTGCTAGACCTCGCTATTTAGAAGTCTGGGGAAAAATCACTCCCGC
CGGTGGCATTTCAATCGACCCCTACTACAACCTACGGTAAGCAAGGAACCTAAGTATGAGGGCTTGGCAGAACACGCTCTTC
CAACACGACCTTATCCAGAGAAAAATTGACAACCGCTAA

4181.2 (SEQ. ID. NO. 321)

ATGACCGAAACGGTAGAAGATAAAGTAAGTCATTCAATTACTGGGCTTGATATCCTCAAGGGGATAGTTGCTGCGGGAGCTG
TCATAAGTGGAACCGTTGCAACTCAACGAAGGTATTTACAATGAGTCAGCAGTACTTGAAAAAACTGTAGAGAAAACGG
ATGCTTTTGGCAACAAATGATACAGTAGTTCTAGGTACGATATCTACAAGTAATTCAGCGAGTTCAACTAGTTTGTGAGCTTCA
GAGTCGGCAAGTACATCTGATCTGAGTCAGCCTCAACACGCGCTTCGACCTCAGCAAGTACAAGTGCATCAGAATCAGCAA
GTACATCGGCTTCGACAAGTATTTCTGCATCATCTACTGTGTTAGGTTTACAAACAGCTGCCGCTACAGAAGCAACTGCTAA
GAAGGTGCAAGAAAGATCGTAAGAAACCAGCTAGTGATTATGTAGCATCAGTTACAAATGTCAATCTCCAATCTTATGCTAAG
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GTATATCGTGTTCATTTACTATAAAATTTGAAAGTGACAAATGATGGTTCAAAATTTGACCTTTACCTATACGGTTACGTATGT
GAATCCTAAAAACAAATGATCTTGGTAATATATCAAGTATGCGTCTGGATTTCTATCTATAATTCAGGTACTTCAACACAAA

ATGGGGGTCGAACTTGGTTTTATTCTAGCATCTGCTGGCTGGCCATCGGGCTTGGTTCGGTTTGGAAAGTTTCCCTACATGAC
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GCCCTTGGCCGTAGTGGCTGGCGTTTCCGCTATCAAACCTTTGGAAAACTGGGCAAGAATAACAAGTACAACCTTTATCGGTT
GATTGGCGCCTTTGCCCTCTTTATCCTCTTATCTTTTACAGTGTTATCGGAGGATGGATTCTAGTCTATCTAGGTATTAGT
TTGGGAAATTGTTCCAACCTTGGTGGAACGGGTGATTATGCTCAGTTATTATCTCAATCATTTCAAATCCAGCCATTGCCCTA
GGAGCTCAAGCGGCTTTATCTCTATTGAATATCTTACTTGTATCAGCTGGGGTTCAAAAAGGGATTGAAAGAGCTTCGAAAG
TCATGATGCCCTGCTCTTATCGTCTTTGGTTTTTATCATCGGTCGCTCTCAGTTTGGCAAATGCCATGGAAGGGGTTCTTT
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AATATCTCGATATCCATCATGGCAGGTAGCCATTTTCCAAGTCGATCCCTCTCAATATCCAGTCTGAAGGGGAGCCAG
CCTGCTCTTTATCGTCTTGCCTCAACTCTTTGACAAGATGCCTTTTGAACCATTTTCTACGTCCTCTTCTCTTGTCTTCTCTT
TTTGGCAGACTCACTTTTCTGTGCTGATGCTGGAAATCAATGTAGACAATATCAACCAACCAAGGATAACAGCAACCGTCCCA
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TTTTTGTAAGACCTCTTTGACGCTATGGACTTCTTGGTTTCCAATCTCTCATGCCATTTGGAGCTCTCTACCTTTCATCTTT
TACAGGCTATATCTTTAAAAGGCTCTTGCAATGGAGGAACCTCATCTCGATGAAAGAGCATGGAAACAAGGACTGTTCCAA
GCTTGGCTCTTCTCTCTCGTTTCTCGTTTCTGCTATTCCAATCATCATCATGTGGTCTTCATTGCCAAATTTATGTAATCAA
AAGGACTTGAATAG

ATGTTGAAAAAATGCGAGTTAAAAAGATGTTATCTTGCTTGCCTTCTTGCTATCTTTTTTGGTGGGGTTTTTCGTTGGTTCAGGA
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TCCTTTATGGTAGCCAATTTGGTCTAGGAGCTCTTTGTCTGGCTTTGTTCAAGGTTTGGGAAGTGAATTTGGTTTTATCGCTAA
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AAGTTAGGTTACTACGCCCTTTTCCCTTCCGTTTGTCTTCTTCTGCTTGGTGGTACGTTTATTTCTGTTTATTTCTTCTGTACCAT
CTTGGTTTCGTGCCAATTGTCAAACCTCTATCATCAGTTTGCAACCTGGAGGAAAGACATAG

ATGGTCAAAGTAGCAACCCAGACACCGATTATCAGTCTCTTCTTGCTGATTTTATCCTTGAAACATCTTTCATTCTTCGATT
GCTCTGACTCTTTCGGTAGTCGCATTTTGATTTCTTTATGCTCTATTACCGTCGATTTAAAAATGTTAGCTTGGATGATCATA
CTTGCCATTTTACCATCTTTTGCCAACTACCTGGGCAGTTTCAGTTACACGGAGATGCTTACACGGCAGTCATGCTTGGAAACGAG
GGCCTTTGTGACAGCTTTGATCGGCCTTGCTTTGTGTTCTCTGTTTACCTAAAGAGCTTCTCTTGTACTTGGCTCAAAAGGG
GCTATCACGCTCTTGGTCTATGCTTGATTGTGGTATTCAATTCTTTTCTCTCATTCAGCAAGAAATCAAGTCCCTCAAAGA
AGCTTGCCCTATTACGTGGTCAAGAAGACTACATTTTGGTCGCCCTTGATTACAGAAAGGTTCTGATGACAGTCTTTAGGTGGC
GCCATCTTTACCTGAGAGCTCTACTGCTCAGGATATGACGAAACATGCACAGTTGAAGAAATAGCTATCGGACTTTTATATT
CCTAAAAAACAATAATCTACCTGCTTTCTTTTATGCTTCAAAACAGTCTATTTTATAA

4183.7 (SEQ. ID. NO. 325)

ATGAGAAAGCACCAATTACAAGTTCACAAATTAACCATTTTATCTATGATGATTGCCCTTGATGTAGTCCTTACACCTATCTT
 TCGAATTGAGGGAATGGCACCGATGTCCAGTGTAGTCAATATTCTAGCAGGAATCATGATGGGACCTGTTTATGCCTTGGCT
 ATGGCTACAGTCACAGCCTTTATCCGTATGACGACTCAAGGGATTCCGCCTTTAGCTCTCACAGGAGCGACTTTTGAGCCCT
 TCTAGCAGGTCTCTTTTATAAGTACGGTCGAAAAATTTCACTATTCTGCTCTAGGAGAGATTTTGGGAACAGGTATTATTGGTT
 CCATTGTTTCTATCTCTGTTATGGTACTCTTTACAGGATCAGCTGCTAAGCTTAGCTGGTTTATCTACACGCCTCGATTTTTCG
 GAGCAACCTTGATTGGTACAGCGATTTCCTTTATTGCCTTTCGATTTTTAATCAAGCAGGAATTCTTTAAAAAAGTGCAGGGA
 TATTTCTTTAGTGAAAGGATAGACTGA

4183.8 (SEQ. ID. NO. 326)

ATGCAGGAATTTACAAATCCCTTTCCTATAGGCTCTAGTTCCCTCATTCACTGCATTACCAATGAGATTTCTTGTGAGATGCTG
 GCAAAATGGGATTTTGGCTCTGGGATGCAAACTGTCTATGGCAGATGATTCCCGTGAAGTTCTTGATTTTACTAAGCAAGTCA
 GGCTCTCTTCATCAATTTGGGGCATTGTGTCAGCTGAGAAGGAAAAAGCAATCCGCATGGCAGCTTCGTATGCAAAACCAATCT
 TCTCTCCCGATGGTAGTAGATGCGGTTGGCGTAACGACTTCATCCATTTCGTAAGAGCTTAGTTAAAGACCTTTTAGACTATAG
 ACCTACGGTCCTTAAAGGAAACATGTGAGAAATTCGAAGTCTTGTGGATTAAAGCACCACGGCGTTGGGGTCGATGCGAGT
 GCTAAAGATCAAGAAACGGAGGATTGCTTCAAGTCTTGAAGACTGGTGTGACACCTATCCTGGTATGCTTTCTTAGTCAC
 AGGTCCCAAGGACCTCGTCGTTTCGAAAAATCAGGTCTGTACTGGGAAATGGCTGTACTGAATTAGACTGGATAACAGGG
 ACAGGAGACTTGGTTGGAGCCTTAACAGCTGTTTTCTCAGCCAAGGAAAGACTGGTTTTGAAGCTTCTTGTTCAGCAGTCTC
 TTATCTCAATATCGCTGCTGAGAAAAATAGTTGTTCAAGGAATGGGATTGGAAGAATTCGTTACCAAGTACTCAATCAGCTTT
 CGCTCCTAAGAAGAGATGAAAAATGGCTAGATACCATCAAAGGAGAGGTTTATGAATAG

4185.3 (SEQ. ID. NO. 327)

ATGAACCATAAAAATCGCAATTTTATCAGATGTTTCATGGCAATGCGACGGCGCTAGAAGCAGTGATTGCAGATGCTAAAAATC
 AAGGGGCCAGTGAATATTGGCTTCTGGGAGATATTTTCTTCTGGTCCAGGCGCAATGACTTAGTCGCCCTGCTAAAGGAC
 CTTCCTATCACAGCAAGTGTTCGAGGCAATTGGGATGATCGTGTCTTGGGCTTTAGATGGGCAATATGGCTTAGAAGACC
 CACAGTAAGTTCACGCTTTCGCGTATGACACAGTATTGATGGAGCGAATGGATCCTGCAACGATTGTCTGGCTACGAAGCTT
 GCCTTTGCTGGAAAAAGAAAGAAATGACGGATTGCGCTTTTCTATCTCTCATAATTTACCTGACAAAAACTATGGTGGTACT
 TGCTAGTTGAGAATGATACAGAGAAATTTGACCAACTGCTAGATGCGGAAACGGACGTGGCAGTTTATGGTCACTGTTTCAAA
 GCAGTTGCTTCGTTATGGAAGTCAAGGGCAACAAATCATCAATCCAGGGTCGATTGGCATGCCCTATTTTAAATGGGAGGGC
 TTAAAAAATCACCGTTCCCGATGATGCCGTGATAGAAGTTGAAGATGGGGAATTACTCAATATCCAATTTTCGTAAAGTTGCTTA
 TGATTACGAAGCTGAGTTAGAATTTGGCCAAGTCCAAGGGGCTTCCCTTTATCGAAATGTATGAAGAAGTGGCTCGTGACGAT
 AACTATCAGGGGCACAATCTGGAATTATTAGCCAGCTTAATAGAAAAGCATGGGTATGTAGAGGATGTGAAGAATTTTTTTG
 ATTTTTGTAA

4186.1 (SEQ. ID. NO. 328)

ATGAATGTAAATCAGATTGTACGGATTATTCCTACTTTAAAAAGCTAATAATAGAAAAATTAATGAAACATTTTATATTGAAAC
 CCTTGGAAATGAAGCCCTTGTAGAGAATCGGCCCTTCTGTCACTAGGTGACCAACGGGTCTTGAAGAGCTGGTTTTAGAA
 GAAGCTCCAGTATGCGTACTCGTAAGGTAGAGGGAAGAAAAAACTAGCTAGATTGATTGTCAGGTGGAAAAATCCCTTA
 GAAATGAAGGAATCTTATCTAAAAACAGATTGATTATCGATTATATAAAGGTCAAAATGGTACGCTTTTGAAATTTTCTC
 ACCAGAAGATGATTGTGATTTGATTTGATTCATGCGGAAGATGACATAGCAAGTCTAGTAGAAGTAGGAGAAAAAGCCTGAATTTCAA
 ACAGATTGGCATCAATTTCTTAAAGTAAATTTGAGATTTCTATGGAATTACATCTCCCACTGATATCGAAAGTTTCTTGA
 ATCATCTGAAATTTGGGCATCCCTTGATTTTATTCCAGCTCAGGGGAGGATTTGACTGTGGACAATACGGTTACCTGGGACT
 TATCTATGCTCAAGTTCTTGGTCAATGAATTAGACATAGCAAGTCTTCGCCAGAAGTTTGAAGTCTACTGAATATTTTATTCCTA
 AGTCTGAAAAATTTCTTCTTGGTAAAGATAGAAATAATGTTGAATTGTGGTTTGAAGAAGTATGA

4186.2 (SEQ. ID. NO. 329)

ATGAAGTGGACCAAGATTATTAAAAAAATAGAAGAACAATCGAGGCAGGGATTTATCCCGGAGCCTCTTTTGGCTATTTTA
 AGGACAATCAATGGACAGAGTTCTATTTAGGCCAGAGTGACCCAGAGCATGGCTTGCAGACTGAGGCAGGACTAGTTTATGA
 CCTAGCTAGTGTTCAGCAAGGTTGTGGGGTTGGCACAGTTTGTACCTTCTTGTGGGAAATAGGTCAATTAGATATTGATAGAC
 TGGTAATAGATTTTACCTGAGAGTGATTATCCAGACATCACTAATGCCAGCTCTTGACTCATGCAACAGACCTTGATCCT
 TTTTCTCTAATCTGATCTTTTAAACGCCCTGAATTAAGGAATCGCATGTTTCACTCAACAGACGAAGTCAAGCCAGCCTT
 TCTTTATCGGATGTCATTTTGTCTGTTGGGCTTTATTTTGGAAAGAATTTTAAATCAAGATTGGATGTGATTTTAAAGGA
 TCAAGTCTGGAAACCTTGGGGAATGACGGAAACTAAGTTTGGGCCAGTTGAGCTTGCTGTTCCAACAGTTAGAGGTGTAGAG
 GCAGGCATAGTGCATGATCCCAAGGCTCGTCTCGGTGAGACATGCTGGGAGTGTGTTTATTTTCGACTATAAAGGATTT
 ACAAATCTTTTGAACACTATTTAGCAGATGATTTTGAAGAGACTTAAATCAAAATTTTCTCCTTTGGATGACAAGGAAC
 GTTCTTTAGCATGGAATTTGGAAGGAGATTGGCTAGACCATACGGGCTATACAGGTACCTTTATCATGTGGAATCGTCAGAA
 GCAAGAAGCCACTATTTCTATCGAATCGTACCTATGAAAAGGACGAGAGAGCTCAATGGATATTAGACCGCAATCAAGTG
 ATGAACTTGATTGCAAGAAGAGATAA

4187.2 (SEQ. ID. NO. 330)

ATGATGAAGAAGACTTATAATCATATTTTGGTCTGGGGAGTCAATTTCTATAGCATTGCAATTGTCTGTTTTGCTTTACTCCT
 CAAGAACAATCTACCGTGGGAGTGGGAACCTCAGGTATTCAGCATCTGGACGCCTGGTTTTCTTTTACTCCTTTCAATTC
 TCTCTGGAACCTGGGCGAAGTGAGTGACATTGGACAATTAATGTTGGATTTTTTACAAAATATCCTCAATGTCTTCTGTTTTT
 TCCTCTGATTTTCCAACCTCTTTATCTATTTCCAAATTTGGCGAAAAACAAAAAGGTCCTTCTTTTATGTTTTCTTGTGAGTCTT
 GGAATCGAGTGCAGCAATTAATCTTGGACTTTTCTTGTGTTTCAATCGCGTCTTTGAGATTGATTTGTGGACCAACACT
 TTGGGTGGCTATCTGGCTTGGCTCCTTTATAACGATTACATAAAAAACAAGGTAAGGAATTA

4188.1 (SEQ. ID. NO. 331)

ATGAAGATTCTCTCTTAACTTTTGCAAGGCATAAATTTGTTTATGTCTTGCTTACTTTGCTTTTTCTTGCTTTGGTTTATCGTG
 ATGTTTTGATGACTTATTTCTTTTTTATGATTCATGCGCCCGATCTAGCTAAATTCGATGGACAAGCAATTAATAATGACTTAT
 TAAAATCAGCATTAGATTTTCGTATTCTCCAGTTCAATCTAGGTTTTTATCAATCATTTTATTATCCAATCATCATTTGTTTTGCT

AGGTTTTCAATATATTGAGCTGAAAAATAAAGTTTTACGATTGAGTATTGGAAGAGAAGTGAGTTATCAAGGGTTAAAAAGA
AAGTTGACTTTTGAAGTTGCAAGTATCCCTTGTGTTGATATATTTAGTGACTGTGCTGATAATTGCAATTATAACCTATTTCTTT
GGGACTTTTTCTCCTCTTGGATGGAATTTCTATTTTCTGATGGAAGTGGTTTACAAAGACTCCTAGATGGAGAGATAAAAAAG
CTATTTGTTCTTTACTTGTGTCCTACTAATCGGTATTTTCATCAATGCAATCTATTTTTTACAAATAGTTGATTATGTGGGGAAT
GTGACTCGTTCGGCAATCACCTATTTGATGTTTCTTTGGCTTGGTTCTATGCTGCTTATAGTGCCTTGCCTTACTATATGGTTC
CTATGACGAGTTTGTATGCAAGCTAGCTATGGGGATGTAAGTTTGTATGAAACTCTTTACTCCTTATATCCTTTATATTGTCCCTT
ACATGGTGCTTGA AAAATATGAAGATAATGTTTAA

4188.2 (SEQ. ID. NO. 332)

ATGAAGATAATGTTTAAAGAATTTTAAACAATATTTTGCTAAATAGAAAGATTGTTTTACTACTTCGTATAGTTCTGATGATGAT
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CTATAATGACTATTCTGAAGCGAATTTAGAAATCCCCAACTATTGTTAAACCTTTCGCTTTTCATGGTAGGATGGCTCTCTGT
CATTTTACTTGAAGTGATTTGGCAGACCATTACCATTGATTCGCTATCAATCAAGCTCCTTTTTCGATTATACAAGGA
AACGATTGGTTGTCATTTCTAAATTTTTTACTCAAGATTGTTTGTCTGGTTTCTTGGTTTACTTCTCTAGGAATTCATTTCAA
AACAGTCGCACTTTTCTTTTACTTGTCTAGTTAATGATGTTGTACTTACTACTGTCTTATCTGATAGCACTGATTAGTGGGG
CGCTGGTTTTCTTTTCTCTATTTTTCATTTTTCAGCATTTGTGGACAAGAATGGATGATGGATCATATTGTAACAGTGTATTTAGT
ACTCTTAAAGTTTATTAGTTATGTTGATTGTTAGTTCGCTTGAAGAGAAATTTAAGAAAGGATAA

4188.5 (SEQ. ID. NO. 333)

ATGGGCAAAGGAGAGATGGGCAAAGGAGTTATTGGCTTGGAGTTCGACTCAGAAGTATTGGTCAACAAGGCTCCAACCCCTC
AATTGGCAAATGGTAAAAACAGCGACTTTCCTAACCAGTATGATAGCAAGACCTTGTGTTTGCAGTAGATAAGGAAGATAT
CGGACAGGAAATTTATTGGTATAGCTAAAGGAAGCATCGAAAGTATGCATAATCTTCTGTAAATCTAGCAGGTGCCAGAGTT
CCTGGCGGAGTAAATGGTATGCAAAAGCAGCGGTGCATGAAGTTCCAGAATTTACAGGGGGAGTTAATGCTACAGAGCCAGCT
GTTCTGAAATCGCAGAGTATAAGGGATCTGATTTCGTTGTAACCTTTCTACAAAAAAGATTACTTACAAAGCTCCTCT
TGCTCAGCAGGCACTTCTGAAACAGGAAACAAGGAGAGTGACCTCTAGCTTCACTAGGACTAACAGCTTTCTTCTCTGGT
CTGTTTACGCTAGGGA AAAAGAGAGAACAATAA

4188.10 (SEQ. ID. NO. 334)

ATGTTTAAAGTTTTACAAAAAGTTGGA AAAAGCTTTTATGTTACCTATAGCTATACCTCTGCAGCAGGTCTACTTTTGGGGAT
TGGTGGTGCACTTTCAAACCCAACACGATAGCAACTTATCCAATACTAGACAATAGTATTTTTCAATCAATATTTCCAAGTAA
TGAGCTCTGCAGGAGAGGTTGTATTCAGTAATTTGTCACTACTTCTCTGTGTGGGATTATGTATTGGCTTAGCGAAACGAGAT
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CAATATTCAATTACCTTCGCTTTAGGATTTCTTTGGAGGTTCAAGCTTCTCTATTTGTTACATCGTTCTCTTCTATCTTGATT
GGCTTTGTCTTCTTTGTTATTTGGCCACCTTTCCAACAACCTTCTGTTTCTACAGGTGGATATATTTCTCAGGCGGGTCCAATT
GGAACCTTTTCTATATGGATTTTTAATGAGACTTTCTGGAGCAGTAGGCTTACATCATATAATTTACCTATGTTTGGTATACT
GAACCTTGGTGGTGTGAACTGTTGCAGGACAAACAGTGGTTGGAGCTCAAAAAATATTTTTGCTCAATTAGCCGATTTGGC
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CGGTATTACAGAACCAATTGAATTTATGTTTCTATTCGTCAGTCCGGTTCTATATGTTGTTACCGCATTCCTTGATGGTGTAG
CTTCTTTATTGCAGCGCTTAAATATTTCAATAGGAAACACATTTTCAGGAGGTGTAATCGATTTCACTTTATTTGGAATTTT
GCAGGGGAACGCTAAGACGAATTGGGTTCTTCAGATTCCATTTGGACTTATTTGGAGTGTTTTGTATTATATTATTTTATAGATG
GTTCACTTACTCAATTCAACGTTCTAACGCCAGGGCGAGGAGAAGAAGTAGATTCTAAAGAAAATTTCTGAATCCGCAGATTCA
ACTTCAAAATAGTCAGATTATTTAAAACAGGATAGCCTACAAATTATCAGAGCCTTGGGTGGATCAAATAATATAGAAGATG
TAGATGCTTGTGTGACACGTTTACGTGTAGCTGTAAAAGAAGTTAATCAAGTTGATAAAGCACTTTTAAAACAAATTTGGTGC
AGTTGATGTCTTAGAAGTGAAGGGTGGCATTCAAGCAATCTATGGAGCAAAAAGCAATCTTATATAAAAATAGTATTAATGAA
ATTTTAGGTGTAGATGATTAA

4188.11 (SEQ. ID. NO. 335)

ATGAAATTTAGAAAATTAGCTTGTACAGTACTTGCGGGTGCTGCGGTTCTTGGTCTTGCTGCTTGTGGCAATTCTGGCGGAAG
TAAAGATGCTGCCAAATCAGGTGGTGACGGTGCCAAACAGAAATCACTTGGTGGGCATTCCAGTATTTACCCAAGAAAAA
ACTGGTGACGGTTTGGAACTTATGAAAATCAATCAACGAAGCGTTTGA AAAAAGCAAAACCCAGATATAAAAGTGAAATTT
GAAACCATCGACTTCAAGTCAGGTCTGAAAAAATCACAAACAGCCATCGAAGCAGGAACAGCTCCAGACGTACTCTTTGATG
CACCAGGACGTATCATCCAATACGGTAAAAACGGTAAATGGCTGAGTTGAATGACCTCTTACAGATGAATTTGTTAAAGA
TGTCACCAATGAAAAACATCGTACAAGCAAGTAAAGCTGGAGACAAAGGCTTATATGTATCCGATTAGTTCTGCCCCATTCTAC
ATGGCAATGAACAAGAAAATGTTAGAAGATGCTGGAGTAGCAAACTTGTAAAAGAAGGTTGGACAACCTGATGATTTTGAA
AAAGTATTGAAAGCACTTAAAGACAAGGGTTACACACCAGGTTCATTGTTCAAGTTCTGGTCAAGGGGGAGACCAAGGAACA
CGTGCCCTTATCTTAACCTTTATAGCGGTTCTGTAAACAGATGAAAAAGTTAGCAAAATACAACTGATGATCTTAAATTCGT
CAAAGGCTTGA AAAAAGCAACTAGCTGGATTAAAGACAATTTGATCAATAATGGTTCACAATTTGACGGTGGGGCAGATATC
CAAACTTTGCCAACGGTCAAACATCTTACACAATCTTTGGGCACCAGCTCAAAATGGTATCCAAGCTAAACTTTTGAAG
CAAGTAAGGTAGAAGTGGTAGAAGTACCATTCCCATCAGACGAAGGTAAGCCAGCTCTTGAAGTACCTTGTAAAACGGGTTTGC
AGTATTCAACAATAAAGACGACAAGAAAGTCGCTGCATCTAAGAAAATTCATCCAGTTTATCGCAGATGACAAGGAGTGGG
ACCTAAAGACGTAGTTTCGTACAGGTGCTTTCCAGTCCGTACTTCAATTTGGAAAACCTTTATGAAGACAACGCATGGAAAA
ATCAGCGGCTGGACTCAATACTACTCACCATACTACAACACTATTGATGGATTGCTGAAATGAGAACACTTTGGTTCCCAAT
GTTGCAATCTGTATCAAAATGGTGACGAAAAACCAGCAGATGCTTTGAAAGCCTTCACTGAAAAAGCGAACGAAACAATCAA
AAAAGCTATGAAACAATAG

4188.12 (SEQ. ID. NO. 336)

ATGCAATCTACAGAAAAAACCATTAAACAGCCTTTACTGTTATTTCAACAATCATTTTGTCTTGTGACTGTGCTGTTTCATC
TTCCATTCTACTGGATTTTGACAGGGGCACTTCAAATCACAACTGATACAATTTGTTATTCCTCCTCAGTGGTTCCCTAAAAATG
CCAACCATGGA AAACTTCCAACAACCTCATGGTGCAGAACCTGCTTGCATGGATGTGGAACCTCAGTATTTATCTCATTGGT
AACCATGTTCTTATTGTTGCAACCTCATCTAGCAGGTTATGTTATGGCTAAAAAACGTTTCTATGGTCAACGCACTTCTATT
TGCTATCTTTTACGCTGTGTTGGCGTTTCCAAAACAAGTTGCTGTTGTAACCAATTGGTACGTATCGTCAACTCATGGGAATCCA
TGATACTCTCTGGGCAGTTATCTTTGCCCTTTGATTGGATGGCCATTCCGTGCTTCTCATGAAACAGTTTCACTGAAAAATATCCC
TACAGAGTTGCTTGAATCAGCTAAAATCGACGGTTGTGGTGAGATTCTGACCTTCTGGAGTGTAGCCTTCCCGATTGTGAAAC

CAGGGTTTGCAGCCCTTGAATCTTTACCTTCATCAATACTTGGAAATGACTACTTCATGCAATTGGTAATGTTGACTTCACGTA
 ACAATTTGACCATCTCATTGGGGTTGCGACCATGCAAGGCTGAAATGGCAACCAACTATGGTTTGATTATGGCAGGAGCTGC
 CCTTGCTGCTGTTCCAATCGTCACAGTCTTCTAGTCTTCCAAAAATCCTTCACACAGGGATTACTATGGGAGCGGTCAAAG
 GATAA

4191.1 (SEQ. ID. NO. 337)

ATGAAAAAAGTAAAGTATTTTCTACTGGTGTAGGCTGTTTTGCCTTCTCCACTCTCTGTTTTGCCATTGATTTCAAGATAAACT
 CTTATCAAGGGGATTTGTATATTCATGCAGACAATACGGCAGAGTTTAGACAGAAGATAGTTTACCAGTTTGAGGAGGACTT
 TAAGGGCCAAATCGTGGGACTTGGACGTGCTGGTAAGATGCCTAGCGGGTTTGACATTGACCCTCATCCAAAGATTCCAGGCC
 GCGAAAAACGGTGCAGAACTAGCAGATGTGACTAGCGAAGTAACAGAAGAAGCGGATGGTTATACTGTGAGAGTCTATAAT
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 ATTTAAATTTGGCAACCTCTGACAGATAGTTTCAAGAGTCTATTGAAAGTTTGAATTTTATGTAAGGGGAGACAAGGGGGCTGAA
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 ATCTTCCGGCTAAGCGTGGAGTTGAGTTGCATGCCTATTGGCTCGGACCGATTTTGCTAGCGCTAGGGATCAGGGATTGAA
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 GGTCTCCCTTCGATCCTTTCCATCTCCTTGTTATTGAGTGTCTGCTCTATTTTATTATAGAAGAAAGACCACTCCTTCAGTC
 AAATATGCCAAAAATCATCGTCTCTATGAACCACCAATGGAATTAGAGCCTATGGTTTTATCAGAAGCAGTCTACTCGACCTC
 CTTGGAGGAAGTGAGTCCCTTGGTCAAGGGAGCTGGAAAAATTCACCTTTGATCAACTTATTCAAGCTACCTTGCTAGATGTGA
 TAGACCGTGGGAATGTCTCTATCATTTTCAAGAGGAGATGCAGTTGGTTTGGAGCTAGTAAAAAGAAAGATGGTTTGTCAAGCTT
 TGAGAAAGACTGCTTAAGCTTTTTCAGGTAAAAAAGAAAGAACTCTTTTCCAATTTGTTTGGCGGATACAAGGTATCTG
 ATAGTCTTTATCGTAGAGCCAAAGTTTCTGATGAAAAACGGATTCAAGCAAGAGGGCTTCAACTCAAATCTTCTTTTGAAGA
 GGTATTGAACCATGATGCAAGAAAGGAGTGAGAAAAACGAGTTTCTCTGGGGGCTCCAGATTATTATCGTCTCTTAAGTGGT
 GGGGAAATAGGCTTGAAGTGGGTATGGGTGCTTACTCTGCTCCCTATTTATCGGATTGGTTTGTCTTGTACAGTTT
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 CGACTAGATAATCGTGATGGTGTCTAAATGAAGCGGGAGCTGAGGTCTACTATCTCTGGACCAGTTTGTAAAAATATGTTGC
 GTGAGATTGCACGATTGGATCAGGCTGAACTGGAAGATATTGGTCTGGAATCGCCTCTTGGTCTATGCGACCTTATTTGGC
 TATCGCGACAAGGTTAGTCAATTTGATGAAGGTTCTCATGATTCAAGTGGAAAAATCCAGATATCAATCTCTATGTAGCTTATGG
 CTGGCACAGTACGTTTTATCATTCAACAGCACAAATGAGCCATTATGCTAGTGTGCAAAATACAGCAAGCACCTACTCTGTAT
 CTCTGGAAGTGAAGTTCTGGTGGTGGCTTCTCTGGAGGCGGAGGTGGCGGCAGTATCGGTGCCTTTTAA

4191.2 (SEQ. ID. NO. 338)

ATGAAAAAAGTAAAGTATTTTCAAGAGGAGTTCAGGAGTGTGCTGTATATCTCAGTTGACAGCTTTTTCTTCCGATAG
 TTGCTTTAGCAGAAACGCCTGAAACCAAGTCCAGCGATAGGAAAAAGTAGTGATTAAGGAGACAGGCGCAAGGAGGAGCGCTTC
 TAGGAGATGCCGCTTTTGAAGTTGAAAAACAATACGGATGGCACAACCTTTTCGCAAGGACAGAGCGCAACAGGAGAAG
 CGATATTTTCAAACATAAAACCTGGGACATACACCTTGACAGAAAGCCCAACCTCCAGTTGGTTATAAACCTCTACTAAACA
 ATGGACTGTTGAAGTTGAGAAGAATGGTCCGACGACTGTCCAAGGTGAACAGGTAGAAAAATCGAGAAGAGGCTCTATCTGA
 CCAGTATCCACAAACAGGGACTTATCCAGATGTTCAACACCTTATCAGATTATTAAGGTAGATGGTTCCGAAAAAAGCGGA
 CAGCACAAGGCGTTGAATCCGAATCCATATGAACGTGTGATTTCCAGAAGGTACACTTTCAAAGAGAATTTATCAAGTGAATA
 ATTTGGATGATAACCAATATGGAATCGAATTGACGGTTAGTGGGAAAAACAGTGTATGAACAAAAAGATAAGTCTGTGCCGCT
 GGATGCTGTTATCTTGGTCACTCAAAATAGTATGAGTAACATTCGAAAAACAAGAAATGCTCGACGTCGCGAAAAAGAGCTGGT
 GAGGCGACAGCTTCTCTTATTTGATAAAATTACATCTCATGATTCAAGAAATAGGGTAGCGCTTGTGACTTATCTTCCACTCTT
 TGATGGGACCGAGTTTACAGTAGAAAAAGGGGTAGCAGATAAAAAACGGAAAGCGATTGAATGATTCTCTTTTTTGGAAATTAT
 GATCAGACGAGTTTACAACCAATACCAAGATTATAGTTATTTAAAGCTGACTAATGATAAGAATGACATTGTAGAATTAA
 AAAATAAGGTACCTACCGAGGCGAGAAGACCATGATGGAATAGATTGATGTACCAATTCGGTGCCACTTTTACTCAGAAAGC
 TTTGATGAAGGCAGATGAGATTGTGACACAACAAGCGAGACAAAAATAGTCAAAAAGTCATTTTCCATATTACGGATGGTGTC
 CCAACTATGTCGTATCCGATTAATTTTAAATCATGCTACGTTTGTCTCATCATATCAAAATCAACTAAATGCATTTTTTATGATAA
 TCTCCTAATAAAGATGGAATACTATTAAGTGAATTTTATTACGCAAGCAACTAGTGGAGAACATACAATTGTACCGGGAGATG
 GGCAAGTTACCCAGATGTTTACAGATAAGACAGTTTTATGAAAAAGGTGCTCTGACGCTTTCCGATTAACCTGCAAAAAATA
 TTCTGAAATGAAGGCGGCTGGTTATGCAGTTATAGGCGATCCAATTAATGGTGGATATATTTGGCTTAATTGGAGAGAGAGT
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 TGCTCCTAGATGGGTATGATGTCTTTACGGTAGGTATTGGTATTAACGGAGATCCTGGTACGGATGAAGCAACGGCTACTAGTT
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 TTGGGCACAGATGGAAGATTGATCCAGCAGATTACCTTTAACTGCAACCGATGGTAGTCGCTTGGAGAAATGGACAAGCTG
 TAGGTGGTCCACAAAAATGATGGTGGTTTGTAAAAAATGCAAAAGTGTCTATGATACGACTGAGAAAAAGGATTCGTGTAAC
 AGGTCTGTACCTTGAACGGATGAAAAAGTTACGTTGACCTACAATGTTGCTTGAATGATGAGTTTGAAGCAATAAAATTTT
 ATGATACCAATGGTCAACAACCTTACATCCTAAGGAAGTAGAACAGAACACAGTGCAGGACTTCCCGATTCTTAAGATTTCG
 TGATGTGCGGAAGTATCCAGAAATCACAATTTCAAAGAGAAAAAAGCTTGGTGACATTGAGTTTATTAAGGTCAATAAAAAAT
 GATAAAAAACCACTGAGAGGTGCGGTCTTATGCTTCTAAAAACAACATCCGGATTATCCAGATATTTATGGAGCTATTGATC
 AAAATGGCACTTATCAAAATGTGAGAACAGGTGAAGATGGTAAGTTGACCTTTAAAAATCTGTGAGATGGGAAATATCGATT
 ATTTGAAAAATCTGAACCAAGCTGTTTATAAACCCGTTCAAAATAAGCCTATCGTTGCTTCCAAATAGTAAATGGAGAAGTC
 AGAGATGTGACTTCAATCGTTCCACAAGATATACACGGGTTACGAGTTTACGAATGATAAGCACTATTACCAATGAAC
 CTATTCTCCTCAAAGAGAGAATATCCTCGAAGTGGTGGTATCGGAATGTTGCCATTCTATCTGATAGGTTGCATGATGATGGGA
 GGAGTTCTATTATACACAGGAAACATCCGTAA

4191.3 (SEQ. ID. NO. 339)

ATGAAATCAATCAACAAATTTTAAACAATGCTTGTGCTTATTAAGTACAGCGAGTAGCCTGTTTTTCACTGCAACAGTTTTT
 TGCGGCTGGGACGACAAACAACATCTGTTACCGTTCAAACTATTGGCAACAGATGGGGATATGGATAAAATTTGCAAAATGAG
 TTAGAAACAGGTAACATATGCTGGTAATAAAGTGGGTGTTCTACCTGCAAAATGCAAAAGAAATTTGCCGGTGTATGTTCTGTT
 GGCAAAATACTAATAATGAAATTTATGATGAAAAATGGCCAAAGCTTAGGAGTGAATTTGATCCACAAACATTTAAACTCTC
 AGGGGCAATCCCGGCAATGCAATGAAAAAATAACGAAAGCTGAAGGAGCTAAATTTAACACGCAAAATTTACAGCTGC
 TAAGTATAAAATTTATGAAATTCACAGTTTATCAACTTATGTCGGTGAAGATGGAGCAACCTTAAACAGGTTCTAAAGCAGTTT
 CAATTGAAATTTGAATTACCAATTGAACGATGTTGTGGATGCGCATGTGTATCCAAAAATACAGAAGCAAGCCAAAAATTTGA



TAAAGATTTCAAAGGTAAAGCAAATCCAGATACACCACGTGTAGATAAAGATACACCTGTGAACCACCAAGTTGGAGATGTT
GTAGAGTACGAAATTTGTACAAAAATTCAGCACTTGCATAATTATGCAACAGCAAACCTGGAGCGATAGAATGACTGAAGGTT
TGGCATTCAACAAAGGTACAGTGAAGTAAGTGTGATGATGTTGCACTTGAAGCAGGTGATTATGCTCTAACAGAAGTAGC
AACTGGTTTTGATTTGAAATTAACAGATGCTGGTTTAAAGTAAAGTGAAACGCAAAACGCTGAAAAAAGTGTGAAAAATCACT
TATTCGGCAACATTGATGACAAAGCAATTTGAGAAGTACCAGAATCTAATGATGTAACATTTAACTATGGTAATAATCCAG
ATCACGGGAATCTCCAAAGCCGAATAAGCCAAATGAAACAGGGCGATTTGACATTGACCAAGACATGGGTTGATGCTACAG
GTGCACCAATTCGGGCTGGAGCTGAAGCAACGTTTCGATTGGTTAATGCTCAGACTGGTAAAGTTGTACAACTGTAACTTTG
ACAACAGACAAAAATACAGTTACTGTAAACGGATTGGATAAAAAATACAGAATATAAAATTCGTTGAACGTAGTAAAAAGGG
TATTCAGCAGATTATCAAGAAATCACTACAGCTGGAGAAATTTGCTGTCAAGAACTGGAAAGACGAAATTCAAAAACCACTT
GATCCAACAGAGCCAAAAAGTTGTTACATATGGTAAAAAGTTTGTCAAAGTTAATGATAAAGATAATCGTTTGTAGCTGGGGCAG
AATTTGTAAATTGCAAAATGCTGATAATGCTGGTCAATATTTAGCACGTAAAGCAGATAAAGTGAGTCAAGAAGAGAAGCAGTT
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AAAGAGAAAAGTTGACAAAAGCTCAAGCTGCTTATAATGCTGCTGTGATTGCTGCCAACAATGCATTTGAAATGGGTGGCAGATA
AGGACAATGAAAAATGTTGTGAAATTAAGTTTCTGATGCACAAGGTGCGTTTGAATTAACAGGCCTTCTTGCAGGTACATATTAC
TTAGAAGAAACAAAACAGCCTGCTGGTTATGCATTACTAAGTAGCCGTCAGAAAATTTGAAGTCACTGCAACTTCTTATTCAGC
GACTGGACAAGGCATTGAGTATACGCTGGTTCAAGTAAAGTAGACCTACAAAAGTAGTCAACAAAAAATCACTATCCCC
ACAAACGGGTGGTATTGGTACAATTATCTTTGCTGTAGCGGGGGCTGCGATTATGGGTATTGCAAGTGACGCATATGTTAAA
AACAACAAAGATGAGGATCAACTTGTCTAA

4191.4 (SEQ. ID. NO. 340)

ATGACAATGCAGAAAATGCAGAAAATGATTAGTCGTATCTCTTTGTTATGGCTCTGTGTTTTCTCTTGTATGGGGTGCACA
TGCAGTCCAAGCGCAAGAAGATCACACGTTGGTCTTGCAAATTTGGAGAAGTATCAGGAGGTGGTTAGTCAATTTGCCATCTCGT
GATGGTATCGGTTGCAAGTATGGAAGTTGGATGATTCTGATTTCTATGATGATCGGGTGCAAAATTTGAAGAGACTTGCATTC
GTGGGATGAGAAATAAACTTTCTTTCAAAAAGACTTTCGTTGATGACCTTCCTTGAGAATCAGATTGAAGTATGCTCAT
TTCCAAATGGTCTTTACTATGTTTCGCTCTATTATCCAGACGGATGCGGTTTCTTATCCAGCTGAATTTCTTTTGAATGACAG
ATCAAAACGGTAGAGCTTTTGGTCATTGTAGCGAAAAAACAAGATACAATGACAACAAAGGTGAAGCTGATAAAGGTGGATC
AAGACCACAATCGCTTGGAGGGTGTGCGCTTTAAATTTGGTATCAGTAGCAAGAGATGTTTTCTGAAAAAGAGGTTCCCTTGAT
TGGAGAATACCGTTACAGTTCTTCTGGTCAAGTAGGGAGAAGTCTCTATACTGATAAAAAATGGAGAGATTTTTGTGACAAAT
CTTCTCTTGGGAAGTATCGTTTCAAGGAGGTGGAGCCACTGGCAGGCTATGCTGTTACGACGCTGGATACGGATGTCCAGCT
GGTAGATCATCAGCTGGTGACGATTACGGTTGTCAATCAGAAATTACCACGTGGCAATGTTGACTTTATGAAGGTGGATGGT
CGGACCAATACCTCTCTTCAAGGGGCAATGTTCAAGTCAAGTGAAGAAGAAAGCGGACACTATACTCTGTTCTTCAAAATG
GTAAGGAAGTAGTTGTAACATCAGGGAAGATGGTCTGTTCCGAGTGGAAGGTCTAGAGTATGGGACATACTATTTATGGGA
GCTCCAAGCTCCAAGTGGTATGTTCAATTAACATCGCCTGTTCTTTACAATCGGGAAAGATACGCTGAAGGAAGTGGTAA
CAGTGGTTAAAAATAACAAGCACCAGGATTGATGTCCAGATACAGGGGAAGAAACCCCTGTATATCTTGATGCTTGTG
CCATTTTGTGTTTGGTAG

4191.5 (SEQ. ID. NO. 341)

ATGAGCCACATATACTTATCTATTTTACAAAGTCTCTTGTGATGCTAGGACTTGTCAATGTTGCTCAAGCCGATGAATATTTA
CGCATCGGTATGGAAGCAGCATATGCTCCCTTTAACTGGACCCAGGATGATGATAGCAACGGAGCTGTCAAAATCGATGGGA
CCAATCAGTATGCCAACGGATACGATGTTCAAAATCGCGAAGAAAAATCGCTAAGGACTTAGGTAAAGAACCTTTGGTTGTTAA
AACCAAGTGGGAAGGTCTAGTCCCTTACTTCTGTTAAGATTGACATGATTATCGCAGGTATGAGTCCAGTTCAGCAAAAC
CGCAACAAAGAAATTTGCCTTTTCGAGCAGTTACTATACTAGCGAACCAAGTTTGTCTGTCAAAAAAGATTCTGCCTACGCAA
GTGCTAAATCTTTGGATGACTTTAACGGTGCAAAAAATCACTTCTCAACAAGGGGTCTACCTTTATAACTTGTATGCACAAATC
CCAGGTGCTAAAAAAGAAACAGCCATGGGAGACTTCGCTCAAAATGCGACAAGCTCTTGAGGCTGGTGTCAATTGATGCTTATG
TTTGTGACGTTCCAGAGCACTGACTGCTGAAGCTGCGAAGCTTAAGTTCAAGATGATTCAAGTAGAACCTGGTTTCAAAAAC
TGGGGAAGAGATACAGCTATCGCTATCGGGCTTCGTA AAAATGACAATCGTATTAGCCAAATCAATGCCAGCATTGAAACC
ATTTCAAAAAGATGACCAAGTTGCTTGTATGGATCGTATGATCAAGGAACAACCTGCGGAAGCTACAACAAGTGAAGAGACTA
GCAGTAGTTTCTTTAGCCAAGTTGCTAAAAATCTTTTCTGAAAACCTGGCAACAACCTTTGCGTGGTGTGATACACTCTTTTAA
TCTCTATCGTCGGAACCATCATAGGTCTCATTATTGGACTTGCCATTGGTGTCTTCCGTAAGTCTCTCTCTGAAAACAAAG
TCATTTACGGCCTACAAAAACTAGTCGGCTGGGTTCTCAATGTCTACATTGAAATTTTCCGTGGTACGCCAATGATTGTTCAA
TCGATGGTTATCTACTATGGAACCTGCCAAGCTTTCCGGATCAACC
TTGACCGTACACTGGCTGCTATCTTCACTGTTTCAATAACCTGGTCCCTACATGACTGAAATCGTCCGTGGTGGTATCCTA
GCAGTTGACAAGGGACAATTTGAAGCTGCGACTGCTCTTGGTATGACCCATAACCAGACCATGCGTAAGATTGTCTACCTC
AGGTAGTCCGTAACATCTACCTGCAACTGGTAATGAATTTGTCAATATCAAGATACATCTGTAATTGAACGTTATCTCT
GTTGTGGAACCTTTATTTCTCAGGAAATACCGTGGCAACACAAACCTATCAATACTCCAGACATTTACAATCATCGCCGTGAT
TTACTTTGTCTTCACTTACCGTAACACGTATCTACGCTTTATCGAGCGCAGAATGGACATGGATACCTACACTACAGGTG
CTAACCAATGCAACGGAGGATTGAAATAA

4191.6 (SEQ. ID. NO. 342)

ATGACACAAGCAATCCTTGAATTAACACCTCAAAAAATCCTATGGACAAAACGAAGTGCTAAAAGACATTTCACTCACTG
TCCACAAGGGAGAGGTATCTCTATCATCGGAAGCTCTGGAAGCGGAAAAATCGACCTTCTACGCTCCATTAACCTACTTTGA
AACACCAACTGATGGACAAATCCTTTATCATGGACAAAACGCTCCTCGAAAAAGGCTATGACCTCAGCAATACCGTGAAAAAG
TTGGGGATGGTTTTTCAATCCTTTAACTCTTTGAAAAATCTCAATGTTCTTGA AAAACACAATCGTCTGCTCAGACAACTGCTCT
AAAACGCGAACGACAGAAAGCTGAAAAGATTGCCAAAGAAAACTGGAAAAGGTGCGCATGGGAGAACGCTACTGGCAAG
CCAAACCAAAAAAAGTCTCAGGTGGTCAAAAAACAGTTGTGGCCATCGCTCGTCCCTCTCCATGAATCCGGACGCTATTTCT
CTTTGATGAACCAACATCAGCTCTCGATCCAGAAATGGTTGGGAAGTCTTCAAAAATCATGAGGACCTCAGGAAAGGC
TTGACCATGATTGTGTAACCCATGAAATGGAATTTGCCCGTGTATGCTCTCACCGTGTTATCTTTATGGATAAGGGCGTGAT
CGCTGAAGAAGGTAAACCAGAAGACCTTTCACCAATCCTAAAGAAGACCGAACAAAAGAGTTCTTCAACGCTATCTCAA
ATAA

4192.3 (SEQ. ID. NO. 343)

ATGAAAAAGTATCAACTTCTATTCAAAAATAAGTGCAGTCTTCTCTTACTTATTTTTTCGTAATTTAGTCTTTCTCAGCTGACGCTT
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GTCATGATTGTGGTTCTTGTAAAGACAGGCCATGGTTATCTCTTCCGCTTCCAAAGAAAAAATGGCTTTGGTATTCGATTTT
GACAGTATTAGTGCTAGTGTCCAGATCTTTTTAACGTTTCAGACAGCTAAACATGTTTCAGTCAACTGCGGAAGGTGGGGCTG

TATTGATTGGTTATAGTGGGACTAACTTTGCAGAGCTAGGTATTTATATAGCCCTGTTCTTTCTGGTTCCACTGATGGAAGAA
TTGATTATAGAGGATTACTGCAACATGCTTTCTTTAAGCATTTCGCGATTTGGTCTTGATTGGCTTCTTCTTCTATTTTATTTG
CTCTCCCTCATTTTCAAGCCTGCCTAGTCTGTTAGATATCTTCGTCTTTGCAACAGTTGGAATCATCTTTGCTGGTTTGACCC
GCTATACCAAGAGCATTTATCCATCTATGCGGTGCATGTGATCAATAATATTGTAGCGACCTTCCCGTTTTTGCTCACTTTTC
TACATAGGGTCTTGGGGTAA

4193.1 (SEQ. ID. NO. 344)

ATGAACAAGAAACAATGGCTAGGTCTTGGCCTAGTTGCAGTGGCAGCAGTTGGACTTGGCTGCATGTGGTAACCGCTCTTCTC
GTAACGCGAGCTTCATCTTCTGATGTGAAGACAAAAGCAGCAATCGTCACTGATACTGGTGGTGTGATGACAAATCATTCAA
CCAATCAGCTTGGGAAGGTTTGCAGGCTTGGGGTAAAGAACACAATCTTTCAAAAGATAACGGTTTCACTTACTTCCAATCA
ACAAGTGAAGCTGACTACGCTAACAACTTGCAACAAGCGGCTGGAAGTTACAACCTAATCTTCGGTGTGGTTTGGCCCTTA
ATAATGCAGTTAAAGATGCAGCAAAAAGAACACACTGACTTGAACCTATGTCTTGATTGATGATGTGATTAAAGACCAAAAGAA
TGTTGCGAGCGTCAACTTTTCGCTGATAATGAGTCAAGTTACTcTTGAGGTGTGGCTGCAGCAAAAACAAATAGACAAAACAA
GTTGGTTTTGTAGGTGGTATCGAATCTGAAGTTATCTCTCGTTTTGAAGCAGGATTCAAGGCTGGTGTGCGTCAGTAGACCC
ATCATCAAAAGTCCAAGTTGACTACGCTGGTTCAATTTGGTGTATGCGGCTAAAGGTAAAACAATTGCAAGCCGCACAATACGCA
GCGGTGCAGATATTGTTTACCAAGTAGCTGGTGGTACAGGTGCAGGTGTCTTTGCAGAGGCAAAATCTCTCAACGAAAGCC
GTCCTGAAAATGAAAAAGTTTGGGTATCGGTGTGATCGTGACCAAGAAGCAGAAGGTAATAACACTTCTAAAGATGGCAA
AGAATCAAACTTTGTTCTTGTATCTACTTTGAAACAAGTTGGTACAACCTGTAAGATATTCTAACAAGGCAGAAAGAGGA
GAATTCCTGGCGGTCAAGTGATCGTTTACTCATTGAAGGATAAAGGGGTTGACTTGGCAGTAACAAACCTTTCAGAAGAAG
GTAAAAAGCTGTGCAAGATGCAAAAGCTAAAAATCCTTGATGGAAGCGTAAAGT
TCCTGAAAAATAA

4193.3 (SEQ. ID. NO. 345)

ATGTCTAAAAAATTACAACAAATTCGGTTCCTTGATTTCTGTATTCTAGGAATTTTACTCGGAGCCATTGTCATGTGGATC
TTCGGTTATGATGCTATTTGGGGCTACGAAGAAATGTTCTATACAGCCTTTGGCAGTCTGCGTGGGATTGGAGAAAATCTTCCG
TGCTATGGGTCTCTGGTCTTGATTGGTCTTGGTTTGGCCGTGGCAGTCGAGCTGGTTTCTTAAACGTCGGACTTCTGGTCA
GGCTTTGGCAGGTTGGATTCTCAGTGGTTGGTTTGGCCGTGTCGATCCAGATATGCCCGTCCCTTGATGATTCTAGCAACCA
TCGTGATTGCCTTGATTGCTGGTGGGATTGTGCGAGCGATTCCAGGTATTCTTAGGGCCTATCTAGGGACGTCAGAGGTTATT
GTAACCATCATGATGAACCTACATTGTCTTGATGTAGGGAATGCCTTATCCATGCTTCCCTAAAGACTTCATGCAAGTAC
AGATTGACCATTCGTGTGGGCTAATGCAACCTATCAGACACCTTGGTTGGCTGAGTTGACTGGTAACCTACGGATGAAT
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TTGGCAGGTCTTGGTGGAGCTGTTGAAGGTTTGGGAACCTTCCAGAACGCTATGTTCAAGGTTTCGTCAATTAGCTATCGGATT
TAACGGAATGGCGGTTAGTTTGTCTTGGCGCAACTCAACCAATTTGGTATACCTTTTGCAGCCTTCTATTGGCGTTCTCCAAGT
TGGGGCTCTGGTATGAATGCGGCGCAGGTACCATCTGAGCTTGTGAGCATTGTAACAGCGTCTATTATCTTCTTTGTGAGT
TTCATTACCTTATCGAACGCTTTGTCAAACCGAAAAACAAGTTAAAGGAGGTAAGTAA

4194.1 (SEQ. ID. NO. 346)

ATGGGAGTGAAAAAGAACTAAAGTTGACTAGTTTGGTAGGACTGTCTCTGTAAATCATGACAGCCTGTGCGACTAATGGGG
TAACTAGCGATATTACAGCCGAATCGGCTGATTTTGGAGTAAATGGTTTACTTCTTTGCGGAAATCATTCCGCTTTTATCGT
TTGATATTAGTATCGGAGTGGGGATTATTCTCTTTACGGTCTTGATTCTGACAGTCCCTCTTGGCAGTCTTTCAGGTGCAAAATGG
TGGCTTCTAGGAAAATGCAGGAAGCTCAGCCACGCATTAAGGCGCTTCGAGAACAATATCCAGGTGAGATATGGAAAGCA
GAACCAAACTAGAGCAGGAAAATGCGTAAAGTATTTAAAGAAATGGGTGTCAGACAGTCAGACTCTCTTTGGCCGATTTTGAT
TCAGATGCCGTTATTTTGGCCCTGTTCCAAGCCCTATCAAGAGTTGACTTTTAAAGACAGGTCAATTCTTATGGATTAACTT
TGGTAGTGTGGATACAACCCCTTGTCTTCCGATTTTAGCAGCATTTTCACTTTTAAAGTACTTGGTTGTCCAACAAAGCTTT
GTCTGAGCGAAATGGCGCTACGACTGCGATGATGTATGGGATCCAGTCTTGATTTTATCTTTGAGTTTATGCGCCAGGTG
GAGTCGCCCTATACTGGACAGTGTCTAATGCTTATCAAGTCTTGCAAACTATTTCTTGAATAATCCATTCAAGATTATCGCA
GAGCGGAGGCCGTAGTACAGGCACAAAAGATTGGAAAATAGAAAAGAAAAGCCAAGAAAAAGGCTCAGAAAACGAA
ATAA

4194.4 (SEQ. ID. NO. 347)

ATGGTTATCGATCCATTITGCTATCAACGAACTAGACTATTACTTAGTTTACACTTCCACAGTGATCATATCGACCCATACAC
AGCTGCAGCAATTCTCAATAATCCTAAGTTAGAGCATGTTAAGTTTATCGGTCTTACCAGTGTGGACGAATCTGGGAAGGAT
GGGGTGTTCAAAAAGACGTATCATCGTTGTTAAACCAGGTGACACTATCGAATTAAGATATGAAGATTTCATGCAGTAGA
ATCATTTGACCGTACTTGGTTGTTAACTCTCCAGTGAACGGTGTGATGAGACAGGCGGTGAACCTTGTGGCTTGGCTGTTA
CAGATGAAGAAATGGCTCAAAAGGCTGTTAACTATATCTTTGAAACACCAGGTGGAACCATCTATCATGGTGCAGATTCTCA
CTTCTCAAACTATTTTGCAAAACATGGTAAAGACTTTAAATTTGATGTTGCTTTGAATAACTATGGTGAAAAATCCGGTAGGTA
TCCAAGACAAAATGACATCTATCGACCTTCTTCGTATGGCAGAAAAATCTGCGTACCAAAGTCAATTATCCAGTTCACTATGAT
ATCTGGTCAACTTATGGCTTCTACTAATGAGATTCTAGAACTTTGGAAAAATGCGAAAAAGATCGCTTGCAATACGATTTC
TCCATTTATCTGGGAAGTTGGCGGTAAGTACACTTATCTCAAGATCAACACTTAGTAGAATACCATCATCCACGTGGTTTTG
ATGATTGTTTTGAACAAGACTCTAACATTCAATTTAAAGCTTTGCTATAA

4196.2 (SEQ. ID. NO. 348)

ATGTTCTTTTCAAGGCTGGTTGTCTAGTTTGGCTAATACTTATATCCATGATTTACTGGGGGTTCTTTTCCAGATAGTCCATTTT
TAAATGCCCTTTGAAAGTGCTATTGCGGCTCCTTTGGTAGAAGAACCTTGAAATTTGTCACCTGTTTTGTTTTGGCTTTGA
TTCTGTGCGAAAAATAAAACTTTTGTCTTACTTGAATTTGCTTCCGTTTGGGATTCCAAATGATTAAGGATATTGGTTATA
TTCTGACGGATTGGCAGAGGCTTTGACTTTACTATTTCCGCAATTTTAGAGCGTATCATCTCAGGAATTGCCTTCACTGG
ACTTTTTCAGGTCTAGCTGTAGTAGGTGTTACTTGTCTTACAGAGCCTATAAAGGACAGAAGGTTGGCAAGAAACAGGGCC
TTATTTTTCTAGGTTTAGCCTTTGGGAACCTCACTTCTTGTTTAACTCTCCTTTTGTGGAGTTGGAAACAGAGTTGCCTTTAGCGA
TTCCAGTGGTTACGGCTATTGCTCTCTATGGTTTTATCATGCTTATTGCTTTGTTGAGAAACACAATGAGTTGATGACCTAG

4197.1 (SEQ. ID. NO. 349)

ATGAAGGTGGAACACGCTTGGCAGCTCCTTTTCGAGGATGTCGCATTTTTTTTATTAGGATACTAATTATGGAGTTGCAAGAATT
 AGTGAGCGCAGTTGGGCAATCCGACAAGCTTATCACGAAGTGAAGTTAAGCATCATGATTCCAAGTGGACGGTGAAGA
 AGACCTCTTGGCTTTATCTAATGATATTGAAAATTTCCAACGACTGGTGATGACAAAGCAAGGACGCTACTATGATGAAACA
 CCTACACACTGGAACAAAAAATTTTCAGAAAAATATCTGGTGCTATTAGAATTTCTCAACGTTTGGATATAGACATTCTGAC
 GGAATGGAACCTTCTCTGTATAAGAAAAAGCAATTGAACGTTAGGACTTGGAAGTAG

4197.4 (SEQ. ID. NO. 350)

ATGCTTGATTGGAAACAAATTTTTCTAGCCTATCTGCGCTCCCGTAGTCGCTTTTTTATCTATCTGCTTTCTTTGGCATTTCCTTG
 TCTTACTCTTTTCAGTTTTTATTTGCCAGTCTAGGAATTTACTTCCTCTACTTTTTCTTCTGTGTGGCTTTGTAACCATATTATTT
 TTCATTGGGACATATTGGTGGAAACGCAGGTCTATCGCCAGGAACCTTCTCTATGGAGAGAGGGGAAGCCAAGTCTCCTTTGG
 AAATAGCTTTAGCAGAAAAATTAGAAGCGCGTGAGATGGAACCTCTATCAGCAGAGGTCAAAGCAGAAAGAAAACTGACGG
 ATTTGCTGGATTACTATACCTTGTGGGTCCATCAGATAAAGACCCCATTCGAGCCAGTCAACTCTTAGTTGCGAAGTGGTC
 GACCGCCAACTGAAGCAGCAGCTAGAACAGGAAATTTTCAAATCGACTCTATACCAACCTAGTTTTACAGTACCTGCGTT
 TAGAAAGTTTCCATGATGATTTGGTCTTAAAGCAGGTTCAAATTGAGGACTTGGTCAAGGAAATAATTCGTAATATGCTCTT
 TTCTTTATTCAAAAAGGCTTAAATGTCAATCTACATGACCTTGATAAAGAAATCGTGACGGATAAAAAGTGGCTGCTAGTGG
 TTATTGAGCAAAATCATCTCAACAGTCTCAAGTACACCAAGGAAGGTGGTCTGGAGATTATATGGATGACCAAGAGCTTTG
 TATCAAAGATACGGGAATCGGGATAAAAAACAGTGATGTCTCCGAGTATTTGAACGTGGCTTTTCAGGATACAATGGCCGT
 TTGACCCAGCAGTCTCTGGACTTGGCCTTTATCTATCTAAGAAAAATTTCTGAAGAACTGGGGCACCAGATTCTGATCGAGTC
 TGAGGTGCGAAAGGAACGACAGTGCGGATTTCAGTTTGCTCAAGTGAACCTTAGTCCTTGAGTAA

4211.2 (SEQ. ID. NO. 351)

ATGGAACCTTAATACACACAATGCTGAAATCTTGCTCAGTGACGTAATAAGTCCCCTATCCGCAGGATGAACTGCCAGAGA
 TTGCCCTAGCAGGGCGTTCAAATGTTGGTAAATCCAGCTTTATCAACACTATGTTGAACCGTAAGAATCTCGCCCGTACATCA
 GGAAAACTGGTAAAAACCCAGTCTCTGAACTTTTTAACTATTGATGACAAGATGCGCTTTGTGGATGTGCTGGTTATGGCTA
 TGCTCGTGTCTAAAAAGGAACGTGAAAAAGTGGGGGTGCATGATTGAGGAGTACTTAACGACTCGGGAAAAATCTCCGTGCG
 GTTGTCAGTCTAGTTGACCTTCGTCATGACCCGTCAGCAGATGATGTGAGATGTACGAATTTCTCAAGTATTATGAGATTCC
 AGTCATCATTTGTGGCGAAGGCGGACAAAGATTCTCTGGTGAATGGAACAAGCATGAATCAGCAATCAAAAAGAAAT
 AAACCTTTGACCCGAGTGACGATTTTCATCTCTTTTCATCTGTCAAGGACGGGATGGATGAGGCTTGGGATGCAATCTTAG
 AAAAATTGTGA

4211.3 (SEQ. ID. NO. 352)

ATGACAAAGAAACAACCTTCACTTGGTGATTGTGACAGGGATGAGTGGCGCAGGGAAAACTGTAGCCATTCAAGTCCTTCGAGG
 ATCTAGGTTATTTACCATTTGATAATATGCCGCCAGTCTCTTGCCTAAGTTTTTGACGCTGGTTGAAATTAAAGGAAGACAAT
 CCTAAGTTGGCCTTGGTAGTGATATGCGTAGCCGTTCTTCTTTTCAGAGATTCAAGCTGTTTTGGATGAGTTGGAAAAATCA
 AGATGGTTTTGGATTTCAAAATCCTCTTTTGGATGCGGCTGATAAGGAATTGGTGGCTCGTTACAAGGAAACCAGACGGAGT
 CACCCACTAGCAGCAGACGGTCGTATTTAGATGGAATCAAGTTGGAACGTGAACCTTTGGCACCTTTGAAAAATATGAGCC
 AAAATGTGGTGGATACGACTGAACCTCACTCCACGTGAGTGGCGAAAAACCTTGACAGCAGTTTTCAGACCAAGAACAAGC
 CCAGTCTTTCCGTATCGAAGTCATGTCTTCGGATTAAAGTATGGAATCCCGATTGATGCGGACTTGGCTTTGATGTCCGTTT
 CTTGCCAAATCCCTATTATTTACCAGAACTGAGAAACCAACGGGTGTGGATGAACCTGTTTATGATTATGTATGACCAATC
 CTGAGTCAGAAAGACTTTTATCAACATTTATTTGGCCTTGATTGAGCCGATTCTGCCAAGTTACCAAAAGGAAGGTAAGTCCGTT
 TTGACCAATTGCCATTGGGATGTACGGGTGGACAACCCGATTGTTGGCATTGCTAAACGCTTGGCGCAGGACTTATCCAAGA
 ATTGGTCTGTTAATGAAGGGCATCGCGACAAAGACCGCAGAAAGGAAACGGTAAACCGTTTCATGA

4211.4 (SEQ. ID. NO. 353)

ATGAGAAAACCAAAGATAACGGTGATTGGTGGAGGGACTGGAAGTCCCGTCATTCTAAAAAGTCTGCGGGAAAAAGATGTG
 GAAATCGCAGCTATCGTGACGGTGGCAGATGATGGTGGTTCTTCAGGTGAACCTCCGAAAAAATATGCAACAGTTGACACCGC
 CAGGTGATCTTCGTAATGTCCTTGTGGCCATGTCCGATATGCTAAGTTTTATGAGAAGGTCTTTCAGTATCGGTTCTCTGAG
 GATGCCGATGCGCTTTGGTGGCAATCCATTGGGAAATCTCATATTGCTGGCTTGGCTGTCAGAAATGCAAGGTTCAACCTATAATGC
 CATGCAGTTATTGAGCAAAATTTTCCATACAACAGGGAAAAATTTATCCTTCCAGTGACCATCCTTTGACCCCTTCATGCAGTCTT
 TCAGGATGGGACAGAAAGTGGCTGGAGAGAGTCATATTGTAGACCATCGAGGCATAATTGACAATGTCTATGTGACCAATGCC
 CTAACGATGATACGCTCTGGCCAGCCGTCGAGTAGTGACACCATCCTTGAAAGTGACATGATTGTCTAGGGCCAGGTT
 CCCTCTTTACCTCTATTTTGCCCAATATCGTGATTAAAGGAAATTTGGCGGGCTCTTTTGAAACCAAGGCAGAAATTGCCTAT
 GTCTGCAATATCATGACCAACGTGGGGAGACGGAACACTTACAGATAGCGACCACGTGGAAGTCTTGCATCGTCACCTTG
 GTCGCCCTTTTATCGACACTGTCTTGGTGAATATTGAAAAAGTGCTCAGGAATACATGAATTTCAACCGTTTGTGATGAATAC
 TTAGTGCAAGTGGAAACAGATTGTTAGGTCCTTTGTAAGCAAGTTTCGCGCGTGATTTCATCTAACTTCCTTCGTCTGGAAAA
 TGGCGGTGCCTTCACGATGGAGATTTGATTGTGGACGAGTTGATGCGCATTATACAGGTGAAAAAATGA

4213.1 (SEQ. ID. NO. 354)

ATGAAAAATTTGATAAAGTTGCTAATAATTAGATTGATTGTTAACTTAGCAGACAGTGTATTTTATATAGTAGCATTGTGGCA
 CGTTAGCAATAATTATCTTCGAGCATGTTCTTAGGAATATTTATTGCAGTAAATTTATCTACCGGATTGTTACTAATCTTTTT
 TGGACCAAGTTATTGACAGAGTAAATCCGCAAAAAATCTTATAATATCAATTTTGGTTCAATTAGCAGTGGCTGTAATATTTT
 TATTTATTAAACCAAATATCATTTTGGGTGATAATGAGTCTAGTGTTTATTTCAGTAATGGCTAGCTCCATAAGTTACGTG
 ATAGAAGATGTGTTGATTCTCAAGTGGTAGAATATGATAAGATTGTATTGCAAAATCTCTTTTTAGTATTTTCGTATAAAGT
 ATTAGATTCTATTTTAAATTCATTCCGATCATTTTACAGGTGGCAGTAGGATTTATTTTATTGGTTAAGATAGATATAGGCAT
 ATTTTACTTGCTCTATTTATATTGTTGTTGTTAAAAATTTAGAAGTGAATGCGAATATAGAAAACTTCTCTTTCAAAATATTA
 CAAGAGAGAAGTGTGCAAGGTACAAAGTTATTTTAAATAATAAAATTTATTTTAAACCAAGTATTCTTTAACGCTTATAA
 ACTTTTTTTATTCATTTTCAGACAGTAGTTGTACCGATTTTTTCTATTTCGATATTTTGTGTTCCGATTTTTTATGGTATTTTTTTA
 ACTATTGCTGGTTTGGGTGGTATATTGGGAAATATGCTAGCGCCAAATCGTAATAAAATATTTAAATCGAATCAAAATGTTGGT
 TGTATTCTTTTGAACGGCTCAAGTTGGTTAGTGAATGTTTAAAAAGACTATACTTTATCACTATTTTATTTTTCGTT
 TGTTTTATGTCTAAAGGAGCTTCAATATTATTTTAAATCGTTTACCAAAATACCTCCACATCAACTCTTGGTAGGGTA
 AATACTACCATTGATTCTATTATTTCTTTTGGAAATGCCAATTGGTAGTTAGTTGCAGGAACGCTTATTGATTGAATATTGAA
 TTAGTGTTAATTGCTATTAGCATACCTTATTTTTGTTTTCTTATATTTTTTATACGGATAATGGATTGAAAGAATTTAGTATAT
 ATTAG

4213.2 (SEQ. ID. NO. 355)

ATGATGTCTAACAAAAATAAGGAAATTTCTGATTTTTGCGATTCTCTATACAGTCCTCTTTATGTTTGATGGCGTTAAATTTGCTG
GCTTCTTTAATGCCATCTGCCATTGCAAAATTTATCTGTTTATGTAGTTTTAGCTCTATATGGCTCCTTCTTGTTCAGGATAGAT
TGATCCAACAAATGGAAGGAGATTAGAAAGACTAAAAGAAAATTTCTTCTTTGGAGTCTTAACAGGATGGCTCTTTCTCATTTCT
GATGACTGTTGTCTTTGAATTTGTATCAGAGATGTTGAAGCAGTTTGTGGGACTAGATGGACAAGGTCTAAATCAGTCTAATA
TTCAAAGTACCTTTTCAAGAACAACCACTACTGATAGCTGTTTTGCTTGTGTCATTGGACCTCTGGTAGAAGAATTTATTTTCC
GTCAGGTCTTATTGCAATTACTTGCAGGAACGGTTGTCAGGTTTACTAAGCATTATTCTGGTAGGACTTGTTTTTGCTCTGACTC
ATATGCACAGTTTGGCTCTATCAGAGTGGATTGGTGCACTTGGTTACTTAGGTGGAGGCCTTGCCCTTTTCTATTATTTATGTGA
AAGAAAAAGAGAATATCTACTATCCCTACTTGTTCACATGTTAAGCAACAGCCTCTCCTTAATCATTTTAGCTATCAGTATA
GTAAATGA

4224.1 (SEQ. ID. NO. 356)

TTGAAAAAGCCAATTATCGAATTCAAAAACGTCTCTAAAGTTTTTGAAGACAGCAACACCAAGGTTCTCAAAGACATCAACT
TTGAGTTGGAAGAAGGGAAATTTCTACACCTTCTAGGTGCATCTGGTTCGGGGAAATCAACTATCCTAAACATTATTGCAGG
TTTACTGGATGCGACGACAGGAGATATCATGCTAGACGGTGTTCGTATCAATGATATTCCAACCAACAAGCGCGACGTACAT
ACCGTCTTCCAATCCTATGCCTTGTTCACACATATGAATGTGTTGAAAATGTTGCCCTTCCACTTCGCTTGCCTAAAAATTGAT
AAGAAAGAAATCGAGCAGCGTGTAGCGGAAGTTCTCAAGATGGTTCAGTTGGAAGGTTATGAAAAACGTTCCATCCGCAAA
CTTTCTGGAGGACAACGTCAGCGTGTGCCATCGCCCGTGTATCATCAACCAACCCCGTGTGGCTTGTGGACGAGCCTTT
ATCAGCGCTGGACTTGAAAATTGAGAACAGACATGCAGTACGAATTGCGTGAATTACAACAACGATTGGGCATTACCTTTGTC
TTTGTCACTCAGATCAGGAAGAAGCTCTTGCCATGAGTGACTGGATTTTCGTTATGAATGATGGCGAGATTGTCCAGTCTGG
AACCCTGTGGACATCTACGATGAGCCAATCAACCACCTTGTGTCACCTTTATCGGGGAGTCAAACATCTTGCCAGGTACCA
TGATTGAGGACTACTTGGTCTGAATTTAACGGCAAACGCTTTGAAGCGGTTGATGGTGGGATGAAGCCAAATGAACCTGTTGA
GGTCTGTTATTCGTCCAGAGGACTTGGCGATTACCTTCTGAAGAAGGCAAGCTCCAAGTTAAGGTGATACCCAGCTTTTCC
GTGGAGTTTCAATGAATAATTCGCCTATGACGAACCTTGAAATGAATGGATGATCCACTCAACCCGTAAGGCTATCGTGGG
TGAGAAATCGGTCTGGACTTTGAACCAGAGAAGACATCCACATCATGCGTCTCAATGAAACCGAAGAAGAGTTCGATGCTCGT
ATTGAGGAGTACGTAGAAATCGAAGAGCAAGAAGCAGGTTTGATCAATGCAATCGAGGAGGAAAGAGATGAAGAAAACAA
GCTCTAA

4252.1 (SEQ. ID. NO. 357)

ATGAAATCAATGAGAATCTTATTTTTGTTAGCTTTAATTCAAATCAGTTTGAGTAGCTGTTTCCTATGGAAGGAATGCATCTT
GTCCTTTAAACAAAGTACAGCTTTTTTCATCGGAAGCATGGTTTTTCGTTTCAGGAATCTGTGCTGGAGTAAATTTATCTTTATAC
CCGTAAGCAAGAAAGTCCATAGTGTCTAGCCAGTAAGAAGTCGGTGAAGCTTTTTTACAGTATGTTACTCTTAATTTAATTTGT
TAGGAGCTGTTCTGTTTTGTCAGATAACTTGTTCATCAAAAATACGCTGCAGCAAGAATTAGTTGACTTTTTATTGCCATCCT
TCTTTTCTCTATTTGGGCTAGATTTGCTGATTTTTTACCCTTGAAAAAATACGTGCGCGATTTTCTTGCTATGCTGGACAGAA
AAAAGACAGTGTTGGTACTATTTAGCAACACTCTTTCTTAAGAAATCCAATGACCATTGTCTCACTTCTGATTTATATTG
GACTGGGCTTGTTTTTGTCAGCCTATCTTGCCCAAATTCGGTTAAGAAGGAAGTTTCCTTTTATGGTCAATTTTCCGAGATC
TTGTATTGGTCATTGTTACGCTCATTTTCTTTTAG

4252.2 (SEQ. ID. NO. 358)

ATGGTTAAAAAATTAATTGGAATGGTGCTAGCTTTACTTTCTGTAAGTGTAGTAGGAGTAGGTGTTTTTGTCTTATACTATTTAT
CAACAAGGGACAGAAACCTTAGCTAAAACCTATAAAAAAATCGGTGAAGAAACCAAGGTTATTGAAGCGACTGAACCTCTA
ACCATCTGTTAATTGGGAGTGGACACCGGAAATGTTGAACGAACTGAAACTTGGGTCGGTAGAAGTGATAGCATGATCTTGA
TGACAGTGAATCCTAAAACGAAAAAACAACAAATGATGATTTAGAGCGGGATATTCTGACGCGCATTTGAATCAGGGAATG
GTCAGGCTCATGAAGCGAAACTGAACTCAGCATATGCAGATGGTGGAGCAGAGCTTGCTATAGAAACCATTCAAAAATGA
TGAATATCCATATTGATCGCTATGTGATGGTCAATATGAGAGGATTGCAAAAACCTAGTGGATGCAGTAGGAGGTATTACAGT
CAATAAATCCTAGGTTTTCCCAATTTCTATCAGTGACCAAGAAGAATTTAATACTATTTCTATCGGTGTTGGGGAGCAACATA
TTGGGGGAGAGAAGCCCTAGTCTATGCACGAATGCGTTACCAAGATCCTGAGGGGGATTATGGTCTGCAAAAACGTCAC
GTGAAGTTATTCAAAAAGTCATGGAAAAAGCTCTCAGTTTAAATAGCATTGGTCATTATCAAGAGATTCTAAAAGCTTTGAG
TGACAATATGCAGACCAATATTGATTTGTCTGCAAAAAGTATCCCTAACTTGCTAGGCTATAAAGATTCAATTTAAACCATTTG
AAACTGACAGTTGCAAGGTTGAAGGAGAGATCTTGCCTAAGATGTTCTTACCAGATTGTTTCCGAGAGCATATTGTTGAAAT
GCAAAATCTACTCCGACGTTCTTTGGGACAAGAAGAAGTACTCAGCTTGAAACCAATGCGGTTTTATTGAAGATTATTG
GCAGAGCACCTGTTGGTGATGAAGATAATTAA

4256.2 (SEQ. ID. NO. 359)

ATGAAAAACAAGCCTATGTCAATTATTGCTCTCACCTCCTTCTCTATTTGTCTTTTTTTCTCCACAGCTTGCTGGAAATACCT
GATTTTGACTGGTCTATCTTTTTGCACGATGTGCAAAAAACAGAAAAATTTGTCTTTTTATTGTTGGTTTTACAGCATGTCCATG
ACCTGTCTCTTAGCCCTGTTTTGGCGAGGGATCGAAGAGCTTTCTCTAAGAAAAATGCAGGCTAATCTCAAGCGTTTATTAGC
AGGGCAAGAAGTGGTTACAGGTTGCAGATCCAGATTGGATGCCAGTTTCAAGTCCTTATCAGGTAACTTAACTTTTGACA
GAGGCTCTTCAAAAAGCTGAAATCAGAGCCTTGCTCAGGAAGAGGAAATCATCGAGAAGGAACGGAAGCGAATTGCTCGG
GATTTGCACGATACAGTCAGTCAGGAGTTGTTTGGCGCCACATGATTTTATCGGGTATCAGTCAGCAGGCTTTGAAATTGGA
TAGAGAAAAGATGCAGACCCAGTTGCAGAGTGTACAGCTATTTTAGAAACAGCCAGAAAGGATTGCGGGTTTTGCTCTTG
CATTTGCGACCAAGTTGAACTGGAGCAGAAGAGCTTGATAGAAGGGATTCAAATTTCTTTAAAAGAGCTTGAGGACAAGAGTG
ATCTTAGGGTTAGTCTCAAGCAGAATATGACGAAATTCCTAAGAAAAATCGAGGAGCATATCTTCCGTATCCTGCAAGAGTT
GATTAGCAATACCCTCCGCTGCCCCAGGATCTTGCCATAGATGTTCTACCTCTATCAGACAGATGTTGAATTGCAACTGGAAG
TGGTGGACAATGGGATTGGTTCCAGTTAGGGAGCTTAGACGACTTGAGTTATGGACTGCGAAATATCAAGGAGCGGGTTGA
AGATATGGCTGGAACAGTTCAACTCTTGACAGTCCCCAAGCAAGGGCTGGCGGTTGATATCCGTATTCCTCTGTTAGATAAG
GAATGA

4263.1 (SEQ. ID. NO. 360)

ATGATTGTTTCCATTATTTCTCAAGGATTTGTCTGGGCTATTCTAGGTCTGGGAATCTTTATGACATTTAGGATTTTAACTTT
TCAGATATGACGACAGAAAGGTTCCCTCTTGGGGGAGCTGTTGCTGTCACTTTGATAACCAAAAGGCGTGAACCCATTTT
AGCGACACTTGTGCTGTAGGAGCAGGTTGTTTGGCTGGAATGGCAGCAGGCCCTCTTTATACAAAAGGGAAGATCCCAACC
TTGCTCTCAGGGATTTTGGTGATGACTTCTGTCACTCAATCATGCTCTTGATTATGGGACGTGCCAATTTAGGCCTGCTTGA

ACCAAGCAAATTCAGGATGTTTTGCCCTTTTGATTCCGGATTTGAATCAACTCTTGACAGGTCTCATCTTTGTGAGTATTGTTATT
 GCTCTCATGCTCTTTTTCTTGGACACTAAACTCGGACAAGCCTATATTGCTACAGGGGATAATCCTGATATGGCTAGAAGTTT
 CGGGATTCACTACTGGACGCATGGAGCTCATGGGCTTGGTCTTATCAAATGGTGTGATTGCCCTTGACAGGTGCCCTCATTGCTC
 AGCAAGAAGGTTATGCCGATGTGTCTCGAGGGATCGGGGTTATCGTTGTGGGGCTTGCAAGTTTGATTATTGGAGAAGTTAT
 TTCAAGAGTTTGAGCTTTGGCAGAGCGTTTGGTTACTATCGTTGTAGGTTCTATCGCTTATCAATTTTTAGTGTGGGCAGTTAT
 CGCACTTGGCTTTAATACAAAGTTACCTTCGTTTATACAGTGCCTTGATTTTAGCAGTCTGCCTCATGATTCCAACATTTAAGCA
 AACAATCTTGAAAGGAGCCAAGTTAAGCAAATGA

4346.1 (SEQ. ID. NO. 361)

ATGAAAAAATGAAAGTTTGGTCTACTGTACTTGCAACGGGAGTTGCTCTTACTACACTTGCTGCTTGCTCTGGAGGTTCAAA
 TTCTACGACTGCTTCTTCATCTGAAGAAAAAGCTGATAAAAGTCAAGAATTAGTTATCTATTTCGAAGTCAAGTCTCAAAATGGTC
 GTGGTGATTGGTTAACTGCTAAAGCAAAAGAGCTGGTTTAAATAAAAAATGGTTGATATCGCTGGCGCTCAATTAGCAGA
 CCGTGTTATTGCTGAGAGAATAATGCAGTTGCAGATATGGTATTGGAAATTGGTGCTGTTGATTCAAATAAAATTAGAGATC
 AAAAAATTACTAGTACAGTACAAGCCTAAATGGTTAGATAAAATTGATCAATCTTTATCAGATAAAGATAATTATTATAATCCT
 GTGATTGTTCACCATTAAGTTTAAATTGGGGCGCCTGATGTAAAAGAAATGCCTAAAGATTGGACTGAATTAGGTAGTAAGT
 ATAAAGGTAAATATTCAATTTCTGGTCTTCAAGGAGGTACAGGACGGGCAATTCTAGCAAGTATCTAGTTCGATACCTTGAT
 GATAAAGGTGAATTAGGTGTTTCCGAAAAAGGTTGGGAAGTAGCAAAAGAAATATTTGAAAAATGCAATACACTCTTCAAAAG
 GGAGAAAGTTCAATTGTTAAGATGTTAGACAAAGAAGATCCAATACAATATGGAATGATGTGGGGTCTGGTGCATTAGTTG
 GACAAAAAGAACAAAATGTTGTTTCAAGTTATGACTCCTGAGATTGGTGTACCATTTGTAAGTGAACAACTATGGTTTAA
 AGCACTAGTAAAAAACAAAGCGTTAGCTAAAGAAATTTATTGATTGGTTGGTCAATCAGAAATTCAGTGAATATAGTAAGA
 ACTTTGGATCTATTCTGCAAAATAAGATGCCCTCAAAGATCTACCTGAAGATACGAAGAAATTTGTTGATCAAGTGAACCC
 ACAAATATTGACTGGGAAGCTGTTGGAAAGCATTTGGATGAATGGGTAGAAAAAGCTGAATTAGAATACGTACAATAA

4346.2 (SEQ. ID. NO. 362)

ATGATTAATTTGATAATATTCAAATTAATATGGTGATTTTGTGCAATTGATAATCTGAATTTAGATATACATGAAGGGGA
 ATTTTTTACATTTCTTGGGCTTCAGGATGTGGTAAATCAACTACTTTGAGAGCATTGGTAGGTTTTCTAGATCCATCATCAGG
 AAGTATTGAAGTTAATGGAACAGATGTCACCTCATTTTGGAACTGAAAAGCGTGGAATTGGTATTGTATTTCAATCTTATGCGC
 TATTTCCAACATGACTGTTTTTGTATAATATTGCATTTGGTTTAAAAGTTAAGAAGGTAGCTCCAGATGTTATTTAAAGCTAAA
 GTATCAGCAGTGGCAGCAAAAATTAAGATCTCTGATCAACAGTTACAGCGTAATGTATCAGAATTATCTGGGGGTCAACAAC
 AAAGGGTAGCATTGGCTCGTGCTCTGGTCTTGAACCTAAAATTCCTTGTCTAGATGAACCATTTGTCAAACCTTGACGCAAAA
 TTACGTGTAGATTGAGAAAAGAGTTGAAAAGACTTCAAAAAGAGTTAGGTATTACTACTTTATATGTTACTCATGATCAAG
 AGGAAGCCTTGACTTTATCTGATAGAATTGCAGTCTTAAACAATGGATACATCGAACAGGTGGTACACCAGTAGAGATTTA
 TCATAATTCTCAAACCTGAATTTGTATGTGATTTTATTGGAGATATTAATGTTTGGACCGATGAAACAGTCCACGAAGTATTAT
 TGAAAAATACAAAGCGTTTTCTTAGAGGATAAAAAAGGATACATTCGATTAGAGAAAAGTTGCGATTCAATCGTGAAATGAACA
 AGATTTTATTCTAAAAGGGACAATTATTGATGTTGAGTTTTCTGGAGTTACAATTCATCTATACAATAAAAGTTTCTGAAAGTC
 AGATTCTTAATGTAACAAGTATTGATAGTCAGGCTGCTATTAGATCTGTCGGAGAAAAGTGTGGAATTATTTATCACACCATCA
 GACGTTCTGCAATTTTAA

4346.3 (SEQ. ID. NO. 363)

ATGCGTCATAAATTAATTTAAAAAGATTGGCTTATTCGTTTAGGGTTAATCTGGTCTTAGTAACATTTATTATTTATCCAAAC
 TTTGATCTAGTAGTGAATGTATTTGTAAAAGGAGGAGAAATTTCCCTTGATGCTGTACATCGTGTCTTAAAATCTCAGAGGGC
 ACTTCAGAGTATTATGAACAGTTTTAAGTTAGCATTTTCACTCATTATTACAGTTAATGTCGTAGGTATTCTTTGTGTTCTATT
 TACAGAGTACTTTGATATTAAAGGTGCTAAAATTTTAAAATTAGGTTATATGACCTCTTAAATTTATGGAGGAGTGGTTTTAG
 CGACTGGATATAAATTTGTCTATGGTCCTTATGGATTGATTACAAAATTTTACAAAATGTTATCCCTTCTTTAGACCCTAACT
 GGTATTATTGGGTATGGTGCAGTCTTATTCATTATGACATTTTCAGGAACTGCTAATCATACTTTGTTTTAAACAAATACAATTC
 GAAGCGTTGACTATCACACTATTGAGGCTGCTCGAAAATATGGGAGCAAAACCATTACTGTTTTCCGAAAAGTAGTGTACC
 AACCTTAATTCCAACTCTATTTGCACTTACTATTATGGTTTTCTTAGTGGTTTATCTGCAGTAGCAGCACCCATGATTGTTGG
 TGGTAAAGAAATTTCAAACATAAATCCAATGATTATTACATTTGCAGGGATGGGGAATTCCTGTTAGTTAGCTGCCCTACTTG
 CAATTTATTTAGGTATTGCAACTACAATTTTGCTTACTATCATGAATAAGATAGAAAAAGGTGGAAATTATATTCTATCTCT
 AAGACTAAAAGCGCCTCTTAAAAAACAAAAATTCGCTCTAAGCCTTGGAATATCATTTGCTCACATTGTAGCATATGGATTGT
 TCACAGTTTTCATGCTTCCACTAATTTTTATAGTATTATACTCATTTACAGATCCAGTTGCAATTCAAACAGGTAACCTTAACAT
 TATCAAACCTTACTTTAGAAAAATTATCGCTTATTCTTTAGTAATAGTGCAGGCTTCTCTCCATTCTTGGTCAAGCTTTATTTATTC
 TATTATTGCTGCGACAACAGCAACAATTTCTCGCAGTTGTATTGCTCGTGTGTCAGAAAACATAAATCTCGTTTTGATTTCTT
 ATTTGAATATGGTGCTACTTCCCTGGTTACTACCAAGTACACTTTTAGCAGTAAGTTTATTTTACTTTTAATCAGCCACA
 ATTTCTTGTCTTGAATCAGATTTTGGTAGGTAGTTTGGTAATTTACTATTGTCATATAGTTGTAAAAAATCCCAATTTTCTTAT
 AGAATGGTACGTGCTATTTTATTTAGTGTGATGATGAGATGGAAGATGCAGCAAGAAGTATGGGTGCTTACCTTTTATAC
 TATGATGAAGGTTATCATTCCATTTATTTACCGGTTGTTCTCTCTGTTATTGCTTTAAACTTTAACTCTTTTAACTGACTTC
 GACTTATCTGTATTTCTTTACCATCCCCTAGCTCAACCATTAGGTATTACGATTGATCTGCAGGTGATGAAACAGCAACATC
 TAATGCACAAGCTCTGGTATTTGTTTATACAATTTGTTCTGATGATTATTTCTGGAACGGTATTATACTTCACACAAGACCGG
 GCGTAAAGTAAGGAAATAA

Table 2

(SEQ. ID. NO. 1)

MEELVTLDCFLIDRTKIEANANKYSFVWKKTTTEKFSAKLQEQIQVYFQEEITPLLIKYAMFDKKQKRGYKESAKNLANWHYNDKE
DSYTHPDGWYYRFFHHTKYQKTQTDQEQEIKVYYADEPESAPQKGLYMNERYQNLKAKECQALLSPQGRQIFAQRKIDVEPVFGQI
KASLGKRCNLRGKRQVRIDMGLVLMANNLLKYSKMKZ

(SEQ. ID. NO. 2)

MGKGHWNRKRVSIRKFAVGACSVMIGTCAVLLGGNIAGESVUYADETLTHTAEKPKEEKMIVEEKADKALETKNIVERTEQSE
PSSTEAIASEKKEDEAVTPKEEKVSAKPEEKAPRIESQASNQEKPLKEDAKAVTNEEVNQMIEDRKVDFNQNWYFKLNANSKEAIK
PDADVSTWKKLDLPYDWSIFNDFDHESPAQNEGGQLNGGEAWYRKTFKLEDEKDLKKNVRLTFDGVYMDSDQVYVNGQLVGHYP
NGYNQFSYDITKYLQKDGRENVIHVAHNKQPSSRWYSGSGIYRDVTLQVTDKVHVEKNGTTLTPKLEEQQHGVKETHVTSKIV
NTDDKDHVLAEYQIVERGGHVAVTGLVRTASRTLKAHESTSLDAILEVERPKLWTVLNDKPALYELITRVYRDGQLVDAKKDLFG
YRYHHWTPNEGFSLNGERIKFHGVSLLHHDHGAALGAEENYKAEYRRLKQMKEMGVNSIRTTNHPASEQTLQIAELGLLVQEEAF
DTWYGGKKPYDYGRFFEKDATHEARKGEKWSDFDLRTMVERGKNNPAIFMWSIGNEIGEANGDAHSLATVKRLVKVIKDVVK
TRYVTMGADKFRFGNGSGGHEKIADELDAVGFNYSEDNYKALRAKHPKWLIGSETSSATRTRGSYIRPERELKHSNGPERNYE
QSDYGNDRVGWGTATASWTFDRDNAGYAGQFIWTGTDYIGEPTPWHNQNQTPVKSSYFGIVDTAGIPKHDFFLYQSQQWVSVK
KKPMVHLLPHWNWENKELASKVADSEGIKIPVRAYSNASSVELFLNGKSLGLKTFNKKQTSQDGRTYQEGANANELYLEWKVAYQ
PGTLEAIARDESKEIARDKITTAGKPAAVRLIKEDHAIADGKDLTYIYIEIVDSQGNVPTANNLVRFLHQGGQLVGVVDNGEQ
ASRERYKAQADGSGWIRKAFNGKGVAVIKSTEQAGKFTLTAHSDLLKSNQVTVFTGKKEGQEKTVLGTVEVPKVQTHIEAPEMPTT
VPFVYSQGSRAERPVTWSSVDVSKPGIVTVKGMADGREVEARVEVIALKSELPPVKRIAPNTDLNSVDKSVSYVLIDGSVEEYEV
KWEIAEEDKAKLAIPGSRIGATGYLEGQPIHATLVVEEGNPAAPAVPTVTVGGEAVTGLTSQKPMQYRTLAYGAKLPEVTASAKN
AAVTVLQASAAANGMRASIFQIKDGGPLQTYAIQFLEEAPKIAHLSLQVEKADSLKEDQTVKLSVRAHYQDGTQAVLPADKVTFS
TSGEVAVIRKGMLELHKGAVTLNAEYEGAKDQVELTIQANTEKKIAQSIRPVNVVTDLHQEPSLPATVTVYEDKGFPPKTHKVT
WQAIPKEKLDYSYQTFEVLGKVEGIDLEARAKVSVGEIVSVVEVSVTTPIAEAPQLPESVRTYDSNGHVSSAKVAWDAIRPEQYAKE
GVFTVNGRLEGTQLTKLHVRVSAQTEQGANISDQWTGSELPLAFASDSNPSDPVSNVNDKLISYNNQPANRWTNWNRNTPNEASV
GVLFGDSGILSKRSVDNLVGFHEDHGVGPKSYVIEYYVGKTVPTAPKNPSFVGNEDHVFNDNSANWKPVTNLKAPAQLKAGEM
NHFSFDKVETAVRIRMVKADNKRGTSTIEVQIFAKQVAAAKQGQTRIQVDGKDLANFNPDLDYDYESVDGKVPVAVTASVSN
GLATVVPVSVREGEPRVIAKAENGIDILGEYRLHFTKDKSLSHKPVAAVKQARLLQVGOALELPTKVPVYFTGKDGKETKDLTVE
WEEVPAENLTAKAGQFTVRGRVLGSNLVAEITVRVTDKLGELSDNPNYDENSNAFASATNDIDKNSHDRVYDLYNDGDHSENRR
WTNWSPTSSNPPEVSAGVIFRENGKIVERTVTVQKGVQFFADSGTDAPSKLVLERYVGPFEFVPTYYSNYQAYDADHPFNPNPENWE
AVPYRADKDIAAGDEINVTFAIKAKAMRWMERKADKSGVAMIEMTFLAPSELPQESTQSKILVDGKELADFAENRQDYQITYK
GQRPKVSVEENNQVASTVVDSDGSDSFPVLVRLVSESGKQVKEYRIHLTKEKPVSEKTVAQVQEDLPKIEFVEKDLAYKTVEKKDS
TLYLGETRVEQEGKVGERIFTAINPDGSKKEKLEVVVEPTDRIVLVGTPVAQEAKKPVSEKADTKPIDSSSEASQNTKAQLPST
GSAASQAAVAAGLTLGLSAGLVVTKGKKEDZ

(SEQ. ID. NO. 3)

MKIMKKKYWTLLAILFFCLFNNSVTAQEIPKNLDGNITHTQTSSESSESDEKQVDYSNKNQEEVDQNKFRIDKTELFTVTDKHLK
NCCKELEPQINNDIVNSESNNLLGEDNLDNKKIKENVSHLDNRGGNIEHDKDNLESSIVRKYEWIDKVTGGGESYKLYSKNSKV
SIALDSDGVDLQNTGLLKNLSNHSKNYPNKGYLKGEEGEGEHSIDQDRLGHTAVVAQIVGDDNINGVNPVHNINVYRIFGKSSA
SPDWIKKAIFDAVDDGNDIINLTGQYLMIDGEYEDGNTFETFLKYKAIDYANQKGVIIAALGNDLSNDSGLLKLISRRKK
VRKPLGVVDVPSYFSSTISVGGIDRLGNLSDFSNKGSDSAIYAPAGSTLSLSELGLNNFINAEKYKEDWIFSATLGGYTYLYGNSFA
APKVSQAIAIMIIDKYKLDKQPYNYMFVKKFWKKHYQZ

(SEQ. ID. NO. 4)

MKKTWKVFLTLVTALVAVVLVACGQGTASKDNKEAELKKVDFILDWTPNTNHTGLYVAKEKGYFKEAGVDVDLKLPEESSSD
LVINGKAPFAVYQDYMAKKLEKGAGITAVAAIVEHNTSGIISRKSDNVSSPKDLVGKKYGTWNPTELAMKTLVESQGGDFEK
VEKPNNDNSITPIANGVFDTAWIYYGWDGILAKSQGVANFMYLKDYYKEFDYSPVIANNDYLYKDNKEEARKVIAKKG
QYAMEHPPEEAADILIKNAPELKEKRDVFIESQKYSKEYASDKEKWGQFDAARWNAFYKWDKENGILKEDLTDKGFTNEFVKZ

(SEQ. ID. NO. 5)

MKRTWRNSFVTNLNTPFMIGNIEIPNRTVLAPMAGVTNSAFRTIAKELGAGLVVMMEMVSDKGIQYNNKTLHMLHIDEGENPVS
QLFGSDEDSLARAEEFIQENTKTDIVDINMGCPVNKIVKNEAGAMWLKDPDKIYSIINKVQSVLDIPLTVKMRGTWADPSLAVENA
LAAEAAGVSALAMHGRTRQMYTGHADLETLYKVAQALTKIPFIANGDIRTVQEAQRIEEVGADAVMIGRAAMGNPYLFNQIN
HYFETGEILPDLTFEDKMKIAYEHLKRLINLKGENVAVREFRGLAPHYLRGTSGAAKLRGAISQASTLAEIETLLQLEKAZ

(SEQ. ID. NO. 6)

MIKNPKLLTSKFLRSFAILGGVGLVIHIAIYLTFFYYIQLEGEKFNESARVFTTEYLKTKTSDEIPSLQSYSKSLTISAHLKRDIVDKR
LPLVHDLIDKDGKLSNYIVMLDMSVSTADGKQVTVQFVHGVDVYKEAKNILLLYLPYTLVTFIAFSFVFSYFYTKRLLNPLFYISEV
TSKMQLDDNIRFDESRRKDEVGEVKGQINGMYEHLKVIYELESRNEQIVKLQNKQVSFVRGASHELKTPLASLRILENMQHNG
DYKDHPKYIAKSINKIDQMSHLLLEEVLESSKFQEWTECRETTVKPVLVDILSRVQELAHSIGVTIENQLTDATRVVMSLRALDKVLT
NLISNAIKYSKDNKGRVISEQDGYLSIKNTCAPLSDQELEHLDFIFYHSQIVTDKDESSGLGLYIVNNILESYQMDYSFLPYEHGMEFK
ISLZ

(SEQ. ID. NO. 7)

MYLGDLMKEACEGQFSILSFLQESQTTVKAVMEETGFSKATLTKYVTLNDKALDSGLELAHSEDENLRLSIGAATKGRDIRSLF
LESVYKYQILVYLLYHQFLAHQLAQELVISEATLGRHLAGLNQILSEFDLSIQNGRWGPETHIHYFYFCLFRKVWSSQEWEGHM
QKPERKQEIANLEEICGASLSAGQKLDLVLAHISQQLRVNACQFQVIEEKMGRGYFDNIFYLRLLRVKPSFFAGQHIPLGVEDGE
MMIFFSFLLSHRILPHTMEYILGFGGQLADLLTQLIQEMKEELLGDTYEDHVTYELSQLCAQVYLYKGYILQDRYKYQLENRHP
YLLMEHDFKETAEELFHLPFAFQQTDLDDKILWEWLQLEIYMAENGQGHMRIGDLTSGFLVFSRMAAILKRYLEYNRFITIEAY
DPSRHYDLLVTNNPIHKKEQTPVYYLKNLDLMDLVAIRQLLFTZ

(SEQ. ID. NO. 8)

MEFSKKTRELSIKKMQERTLDLLIIGGGITGAGVALQAAASGLETLGIEMQDFAEGTSSRSTKLHGGGLRYLKQFDVEVVSQTVSE
RAVVQQAIPHIPKSDPMLLPVYDEDGATFSLFRLKVAMDLYDLLAGVSNTPAANKVLSKDQVLERQPNLKKEGLVGGGVYLDLFR

NNDARLVNIENIKRANQD GALIANHVKAEGFLFDES GKITGVVARDLLTDQVFEIKARLVINTTGPWSDKVRNLSNKGTFQFSQMRPT
KGVHLVVDSSKIKVSPQVYFD TGLGDGRMVFLPRENKTYFGTTDDYTGDLHPKVTQEDVDYLLGIVNNRFPESNITIDDISS
WAGLRPLIAGNSASDYNGGNGTISDESFDNLIATVESYLSKEKTREDVESAVSKLESSTSEKHLDPASVSRGSSLD RDDNGLLTLA
GGKITDYRKMAEGAMERVV DILKA EFD RSFKLINSKTYPVSGGELN PANVDSEIEAFAQLGVSRGLDSKEAHYLANLYGSNAPKV
FALAHSLEQAPGLSLADTSLHYAMRNELTSPVDLLRRTNHMLFMRDSDLSDSIVEPILDEMGRFYDWTEEEKATYRADVEAALA
NNDLAELKNZ

(SEQ. ID. NO. 9)

MMNELFGEFLGTLILILLGNVGVAGVVL PKTKSNSSGWIVITMGWGIAVAVAVFVSGKLSPAYLNPVTTIGV ALKGGLPWASVLP
YILAQFAGAMLGQILVWLQFKPHYEAENAGNILATFSTGPAIKD TVSNLISEILGT FVLVLTIFALGLYDFQAGIGTFAVGTLIVGIG
LSLGGTTGYALNPARDLGPRIHMSILPIPKNKG DGDWSYAWIPVVG PVIGAALAVLVFSLFZ

(SEQ. ID. NO. 10)

MTKKKIERISVIHREKILWLKWFYMRDKEQPKYSVLERKMFDAAKNQDMLAYQKYATIKQITDIRVQTSEADILEAVKEVYVYNH
MNVIGACQRLFISQSPAYDKLNKWFNIYSDLYFSVPLPKMGVYHEMVGIZ

(SEQ. ID. NO. 11)

MKNSNEAEMKLLYTDIRTSLEILTREAELVAAGKRVFYIAPNSLSFEKERAVLEYLSQQASF SITVTRFAQMARYLV LNDLPAKT
TLDDIGLGLAFYKCLAELDPKDLRVYGAIKQDPQLIQQLIELYHEMTKSQMSFLDLENLTDEDKRADLLIFEKVTA YLNNQGLAQ
ESQLSHLIEAIENDKVSSDFNQIALVIDGTRFS AEEER VVDLLHGKGVEIVIGAYASKKAYTSPFSEGNLYQASVKFLHHLASKYQT
PAQDCSQTHEKMDSFDKASRLLESSYDFSELALDVDEKDRENLIW SCLTQKEEELVAR SIRQKLHENS DLSYKHFRILLGDVAS
YQLSLKTIFDQYQIPFYLRSEAMAHPLTQFVESILALKRYFRQEDLINLLRTDLYTDLSSQSDIDAFEQYIRYLGINGLPAFQQTFT
KSHHGKFNLERLNLVLRILAPLETLFASRKQKA EKLQKWSVFLKEGAVTKQLQDLTTTLEAVEQERQAEVWKA FCHVLEQFAT
VFAGSQVSLEDFLALLHSGMSLSQYRTIPATVDTVLVQSYDLIAPLTADFVY AIGLTQDNLPKISQNTSLTDEERQNLNQA TEQEV
QLLIASSEN LKKNRYTMLS LVNSARKQLFLSAPSLFNESESKE SAYLQELIHFGFRREKRMNHKGLSKEDMGSYHSLSSLVAYH
QQGEMSDTEQDLTFVKVLSRVIGKLDQQGLENP IPTSPSSKTLAKDTLQALYPAKQEFYLS TSGLTEFYRNEYSYFLRYVLGLQ
EELRLHGNPDARLHNRIFERALQLPNEDSFDQRLEQAIQETSQEREF EAIYQESLEAQFTKEVLLDVARTTG HILRHNP AETIKEE
ANFGGKDQAFIQLDNGRSV FVRGKVDRIDRLKANGAIGVVDYKSSLTQFQFPFFHFNGLNSQLPTYLAALKREGEQNFFGAMYLEM
AEPVQSLMAVKS LAGAVVEASKSMKYQGLFLEKESYLGFEFYNKNKANQLTDEEFQLLLDYNA YLYKKAEEKILAGRFAINPYT
ENGRSIAPYVQHQAITGFEANYHLGQARFLEKLDLADGKRLVGEK LKQAWLEKIREELNRZ

(SEQ. ID. NO. 12)

MKLIPFLSEEEIQLQEA EANSSKEQKKTAEQIEAIYTS AQNILVSASAGSGKTFVMAERILDQLARGVEISQLFISTFTVKAATELKE
RLEKKISKKI QETDDVDLQKHLGRQLADLPNAAIGTMSDFTQKFLGKHGYLLDIAPNFRILQNQSEQLILENEVFHEVFEAHYQ GK
QKETFSHLLKNFAGRGKDERGLRQQVYKIYDFLQSTSNPQKWLSESLKGF EKADFTSEKEKLTEQIKQALWDLESFFRYHLDND
AKEFAKAA YLE NVQLILDEIGSLNQESDQAYQAVLARVV AISKEKNGRALTNASRKADLKPLADAYNEERKTQFAKLQGLSDQI
AILDYQERYHGD TWKLAKTFQSFMSDFVEAYRQRKRQENAFEFADISHYTIEILENFPQVRESYQERFHEVMVDEYQDTNHIQER
MLELLSNGHNRFMVGD IKQSIYRFRQADPQIFNEKFQRYAQNPQEGRLIILKENFRSSSEVLSATNDVFERLMDQEVGEINYDNKH
QLVFANTKLT PNPDKAAFLYDKDDTGE EESQTETKLTGEMRLVIKEILKLHQEKGVAFKEIALLTSSRSRNDQILLALSEYGIP
VKT DGEQNNYLSQLEVQVMLD LTRVIHNP LQDYALVALMKSPMFGFDEDELARLSLQKAEDKVHENLYEKL VNAQKMASSQKG
LIHTALAEK LKQFMDILASWRLYAKTHSLYDLIWKIYNDRFYDYDVGALPNGP ARQANLYALALRADQEFKS NFKGLSRFIRMID
QVLEAQHDLASVAVAPPKDAVELMTIHKSKGLEFPYVFILNMDQDFNKQDSMSEVILSRQNGLG VKYIAKMETGAVEDHYPKTIK
LSIPSLTYRQNEELQLASYSEQMRLLYVAMTRA EKKLYLVGKGSREKLESKEYPAAKNGKLSNTRLQARNFQDWLW AISKVFT
KDKLNFYRFIGEDQLTREAI GELETKSP LQDSSQADNRQSDTIKEALEMLKEVEVYNTLHRAAIELPSVQTPSQIKKFYEPVMDME
GVEIAGQGGSYVGKKISFDLPDFSTKEKVTGAEIGSATHELMQRIDLSQQLTLASLTETLKVQVTSQAVRDKINLDKILAFFD TVLGQ
EILANTDHL YREQPFSMLKRDQKSQEDFVVRGILDGYLLYENKIVLFDYKTD RYDEPSQLVD RYRGQALALYEEALS RAYS IENIEK
YLILLGKDEVQVVKVZ

(SEQ. ID. NO. 13)

MELARHAESLGVD AIAITIPPIYFRLPEYSVAKYWN DISSAAPNTDYVIYNIPQLAGVALT PSLYTEMLKNPRVIGVKNSSMPVQDIQ
TFVSLGGEDHIVFNGPDEQFLGGRLMGARAGIGGTYGAMPELFLKLNQLIADK DLETARELQYAINAIIGKLTSAHG NMYGVIKEV
LKINEGLNIGSVRSPLTPVTEEDRPVVEAAAALIRETKERFLZ

(SEQ. ID. NO. 14)

MYKTKCLREKLVFLKIFFPILYQFANYAS FVDTAMTGQYNTMDLAGVSMATSIWNPF FTLTGIVSALVPIIHHHLGRGKKEEV
ASDFYQFIYALGLSVVLLGMVFLAPILNHIGLEAAVAAVAVRYLWFLSIGIIP LLLFSVIRSLLDSLGLTKLSMYLMLLLPLNSG
FNYLLIYGAFGVPELGGAGAGLGTSLAYWVLLGISVLVLFKQEK LKALHLEKRIPLNMDKIKEGVRLGLPIGGTVFAEVAIFS VVGL
IMAKFSP LIIASHQSAMNFSSLMYAFPMSSISAMAI VVSVEVGAKRFDDAKTYIGLGRWTALIFA AFTLTFLYIFRGNVASLYGN DP
KFIDLTVRFLTYSLFFQLADTFAAPLQGILRGYKDTVIPFYLGLLGYWGVAIPVYAI Z

(SEQ. ID. NO. 15)

MSTLAKIEALLFVAGEDGIRVRQLAELLSLPPTGIQQSLGKLAQKYEKDPDSSLAIETSGAYRLVTKPQFAEILKEYSKAPINQSLS
RAALETLSIIAYKQPI TRIEIDAIRGVNSSGALAKLQAFDLIKEDGKKEVLGRPNLYVT TDYFLDYMGINHLEELPVIDELEIQAQESQ
LFGERIEEDENQZ

(SEQ. ID. NO. 16)

MDTMISRFRHLFEAL KSLKRNGWMTVA AVSSVMITLTLVAIFASVIFNTAKLATDIENNVRVVVYIRKDVEDNSQTIEKEGQTVT
NNDYHKVYDSLKNMSTVKS VTFSSKEEQYEKLTEIMGDNWKIFEGDANPLYDAYIVEANTPN DVKTIAEDAKKIEGVSEVQDGG
ANTERLFLKASFIRVWGLGIAALLIFIAVFLISNTRITISRSREIQIMRLVGAKNSYIRGPFLLEGAFIGLLGAIAPSVLVFIVYQIVYQS
VNKSLVGQNLMSIPDLFSPLMIALLFVIGVFIGSLGSGISMRRFLKIZ

(SEQ. ID. NO. 17)

MKKVRFIFLALLFFLASPEGAMASDGTWQKGQYLKEDGSQAANEWVFDTHYQSWFYIKADANYAENEWLKQGDDYFYLSKSGG
YMAKSEWVEDKGAFYLDQDGKMKRNAWVGTSYVGATGAKVIEDWVYDSQYDAWIFYIKADGQHAKEWLOQIKGKDYFFKS
GGYLLTSQWINQAYVNASGAKVQQGWLFQKQYQSWFYIKENGNYADKEWIFENGHYLYLKSGGYMAANEWIWDKESWFLK
FDGKMAEKWVYDSHSQAWYFYKSGGYMTANEWIWDKESWFLKSDGKIAEKWVYDSHSQAWYFYKSGGYMTANEWIWD
KESWFLKSDGKIAEKWVYDSHSQAWYFYKSGGYMAKNETVDGYQLGSDGKWLGGKTTNENAAYYQVVPVTANVYDSDGE
KLSYISQGSVWLDDKDRKSDDKRLAITISGLSGYMKTEDLQALDASKDFIPYYESDGHRYHYVAQNASIPVASHLSDMEVGKKY
YSADGLHFDGFKLENPFLFKDLTEATNYSAEELDKVFSLLNNNSLLENKGATFKEAEEHYHINALYLLAHSALSNWGRSKIAKD
KNNFFGITAYDTTPYLSAKTFDDVDKGILGATKWIKENYIDRGRFTLGNKASGMNVEYASDPYWGEEKIASVMMKINEKLGGKZ

(SEQ. ID. NO. 18)

MKKVLQKYWAWAFVVIPLLLQAIFYVPMFQGAFFYSFTNWTGLTYNYKFVGLNNFKLLFMDPKFMNAIGFTAIIAIAIMVVGEIAL
GIFIARVLNSKIKGQTFRAWFFFPVLSGLTVALIFKQVFNYGLPAIGNALHIEFFQTSLLGKWKGAIFAAVFVLLWQGVAMPPIIFL
AGLQSIPTTEAARIDGATSKQVFWNIELPYLLPSVSMVFILALKGGLTAFDQVFAMTGGGPNNATTSLGLLVNYAFKNNQFGY
ANAIAVILFLLIVISIIQLRVSKKFEIZ

(SEQ. ID. NO. 19)

MMKQDERKALIGKYILLILGVSLLVPLLATLFSFQKPTKDIVDNFFGFPTNFTWDFSRLLADGIGGYWNSVVITVLSLLAVMIFIP
MAAYSIARNMSKRKAFTMYTLLILGIFVPFQVIMIPITVMMSKLGLANTFGLILLYLTAYIPQTLFLYVGYIKISIPESLDEAAEIDGA
NQFTTYFRIIFPMMKPMHATTMIINALWFWNDFMLPLLVLNRDSKMWTLPFLQYNYAGQYFNDYGPSFASYVVGIIISITIVYLFQ
RHIISGMSNGAVKZ

(SEQ. ID. NO. 20)

MKSILQKMGHEPMLLLFLSYSTVISILAQNWMLVASVGMFLFTIFFLHYQSILSHKFFRLILQFVLFSGSVLSAAFASLEHFQIVKKF
NYAFLSPNMQVWHQNRAEVTFNPNYYGIICCFMIAFYLFITTKLNLKWFVCVLAGFVNLFGNFTQNRATFPAIIAGAIYLFITTI
KNWKAFWLSIGVFAIGLSFLFSSDLGVRMGTLDSSMEERISIWDAAGMALFKQNPFWGEGPLTYMNSYPRIHAPYHEHAHSYIDTI
LSYGIVGTILLVLSVAPVRLMMDMSQESGKRPIIGLYLSFLTVAHVHGFIDLALFWIQSGFIFLLVMCSIPLEHRLVSDMTDZ

(SEQ. ID. NO. 21)

MSKMDVQKIIAPMMKFVNMRGIIALKDGMALPLTVVGSFLIMGQLPFEGNLKSIASVFGANWTEPFMQVYSGTFAIMGLISCF
IAYSAAKNSGVEALPAGVLSVSAFFILLRSSYIPKQGEAIGDAISKVWFGGQGIIGAIIGLVVGSITFFIKRKIVIKMPEQVPQAIKQ
FEAMIPAFVIFLSSMIVYILAKSLTNGGTFIEMIYSAIQVPLQGLTGLSLYGAIGIAFFISFLWFGVHGQSVVNGVVTALLSNLDAN
KAMLASANLSLENGAHIVTQQFLDSFLILSGSGITFGLVVAAMLFAAKSKQYQALGKVAAPFAIFNVNEPVVFGFPIVMNPVMFVPFI
LVPVLAIVIVYGAATGFMQPFSGVTLPWSTPAILSGFLVGGWQGVITQLVILAMSTLVYFPFFKVQDRLAYQNEIKQSZ

(SEQ. ID. NO. 22)

MKKKDLVDQLVSEIETGKVRTLGIYGHGASGKSTFAQELYQALDSTTVNLETDPIYTSGRHLVVPKDAPNQKVTASLPVAHELES
LQRDILACRRVWMSZ

(SEQ. ID. NO. 23)

MKKRYLVLTALLALSAAQSQEKTKNEDGETKTEQTAKADGTVGSKSQGAAQKKAEEVNVKGDYYSIQGKYDEIIVANKHYPLSK
DYNPGENPTAKAELVKLIKAMQEAGFPISDHYSGFRSYETQTKLYQDYVNQDGKAAADRYASRPGYSEHQTGLAFDVIGTDGDL
VTEEKAAQWLLDHAADYGFVVRYLKGKEKETGYMAEEWHLRYVGKEAKEIAASGLSLEEYGFEGGDYVDZ

(SEQ. ID. NO. 24)

MREPDLNHLKKGKGYFKKHAKAVLALSGGLDSMFLFKVLSTYQKELEIELILAHVNHKQRIESDWEEKELRKLAAEAEPIYISNFS
GEFSEARARNFRYDFQEVMMKKTGATALTVAHADDQVETIFMRLIRGTRRLYLSGIKEKQVVGEIEIIRPFLHFQKKDFPSIFHFED
TSNQENHYFRNRIRNSYLPELEKENPRFRDAILGIGNEILDYDLAIELSNINVEDLQQLFSYSESTQVLLQTYLNRFPDLNLTKA
QFAEVQQLKSKSQYRHPKNGYELIKEYQQFQICKISPQADEKEDELVLHYQNQVAYQGYLFSFGLPLEGELIQQIPVSRETSIHRH
RKTGDVLKNGHRKKLRLFIDLKIPMEKRNSALIEQFGEIVSILGIATNNLSKTKNDIMNTVLYIEKIDRZ

(SEQ. ID. NO. 25)

MRKFLIILLPSFLTISKVVSTEKEVVYTSKEIYYLSQSDFGIYFREKLSSPMVYGEVPPYANEDLVESGKLTPTKTSFQITEWRLNK
QGIPVFKLSNHQFIAADKRFLYDQSEVTPTIKKVVLESDFKLYNSPYDLKEVKSSLSAYSQVSDIKTMFVEGREFLHDQAGWVAK
ESTSEEDNRMSKVQEMLESEYQKDSFSIYVKQLTTGKEAGINQDEKMYAASVLKLSYLYYTQEKINEGLYQLDITTVKYVSAVND
PGSYKPEGSGSLPKKEDNKEYSLKDLITKVSKESDNVAHNLLGYIYNQSDATFKSKMSAIMGDDWDPEKELISSKMAGKFMEAI
YNQNGFVLES�TKTDFDSQRIAKGVSVKVAHKIGDADEFKHTDGVVYADSPFILSIFTKNSDYDTISKIAKDVEYEVKZ

(SEQ. ID. NO. 26)

MKKQNNGLIKNPFLWLLFIFLVTGFQYFYSNGNSGGSQQINYTELVEITDGNVKELTYQPNGSVIEVSGVYKNPKTSKEETGIQF
FTPSVTKVEKFTSTILPADTTVSELQKLATDHKAETVKHESSGIWINLLVSIVPFGILFFFLFSMMGMNMGCGNGRNPMSFGRSKA
KAANKEDIKVRFSVAVAGABEEKQELVEVVEFLKDPKRFTKLARIPAGVLLLEGPPGTGKTLAKAVAGEAGVPFFSISGSDFVEMF
VGVGASRVRSFLFEDAKKAAPAIIFIDEIDAVGRQRCVGLGGGNDEREQTLNQLLIEMDGFEGNEGHIVIAATNRSVDLPDALLRPGR
FDRKVLVGRPDVKGREAILKVHAKNKPLAEDVDLKLVAQQTGPGFVGADLENVLNEALVAARRNKSIIASDIDEAEDRVIAGPS
KKDKTVSQKERELVAYHEAGHTIVGLVLSNARVVHKVTIVPRGRAGGYMIALPKEDQMLLSKEDMKEQLAGLMGGRVAEEIIFN
VQTTGASNDFEQATQMARAMVTEYGMSEKLGPVQYEGNHAMLAGSPQKSISEQTAYEIDEEVRSLNNEARNKAAEIIQSNRETH
KLIAEALLKYETLDSTQIKALYETGKMPEAVEESHALSDEVKSKMNDKZ

(SEQ. ID. NO. 27)

MKRSSLLVRMVISIFLVFLILLALVGTFYYQSSSAIEATIEGNSQTTISQTSHFQSYIKKLETTSTGLTQQTDLVAYAEENPSQDKVEG
IRDLFTILKSDKDLKTVVLVTKSGQVISTDDSVQMKTSDDMMAEDWYQKAIHQGAMPVLTARKSDSQWVISVTQELVDAKGA
NLGVRLDISYETLEAYLNQLQLGQGFIFIENHEFVYHPQHTVYSSSSKMEAMKPYIDTGQGYTPGHKSYVSQEKIAGTDWTV
LGVSSEKLDQVRSQLLWTLGASVTSLLVCLCLVWFSKRWIAPLKDRLRETMLEIASGAQNLRKEVGAYELREVTRQFNAML
QIDQLMVAIRSQEETTRQYQLQALSSQINPHFLYNTLDTIHWMAEFHDSQRVVQVTKSLATYFRLALNQKGLDCLISDEINHVRQYL

FIQKQRYGDKLEYEINENVAFDNLVLPKLVQLPLVENALYHGHIKEKEGGHIKLSVQKQDSGLVIRIEDDGVGFQDAGDSSQSQLK
RGGVGLQNVQDQRLKLHFGANYHMKIDSRPQKGTKEIYINRIETSZ

(SEQ. ID. NO. 28)

MKRSSLLVRMVISIFLVFLILLALVGTFFYQSSSSAIEATIEGNSQTTISQTSHFQSYIKKLETTSTGLTQQTDLVLAENPSQDKVEG
IRDLFLTILKSDKDLKTVVLTGSGQVISTDDSVQMKTSDDMMAEDWYQKAIHQGAMPVLTTPARKSDSQWVISVTQELVDAKGA
NLGVLRLDISYETLEAYLNQLQLGQQGFIFIENNEHFVYHPQHTVYSSSSKMEAMKPYIDTGQGYTPGHKSYSVSQEKIAGTDWTV
LGVSSLEKLDQVRSQLLWTLGASVTSLLVCLCLVWFSCLKRWIAPLKDRLRETMLEIASGAQNLRakevGAYELREVTRQFNAMLD
QIDQLMVAIRSQEETTRQYQLQALSSQINPHFLYNTLDTIWMAEFHDSQRVVQVTKSLATYFRLALNQKDKLCLSDIENHVRQYL
FIQKQRYGDKLEYEINENVAFDNLVLPKLVQLPLVENALYHGHIKEKEGGHIKLSVQKQDSGLVIRIEDDGVGFQDAGDSSQSQLK
RGGVGLQNVQDQRLKLHFGANYHMKIDSRPQKGTKEIYINRIETSZ

(SEQ. ID. NO. 29)

MFFKLLREALKVKQVRSKILFTIFIVLVFRIGTSITVPGVNANSLNALSGLSFLNMLSLVSGNALKNFSIFALGVSPYITASIVVQLLQ
MDILPKFVWGKQGEVGRRLNQATRYIALVLAQVQSIGITAGFNTLAGAQLIKTALTPQVFLTIGIILTAGSMIVTWLGEQITDKG
YNGVSMIIFAGIVSSIPEMIQGIYVDYFVNVPSRRITSSIFVILITVLLIYFTTYVQAEYKIPQYTKVAQAGAPSSSYLPLKVNPA
VIPVIFASSITAAPAILQFLSATGHDWAWVRVAQEMLATTSPTGIAMYALLIILFTFFYTFVQINPEKAAETYKRVVPISMEFVLVK
VQKNICLNFFVVLQLLVPSSLVZ

(SEQ. ID. NO. 30)

MDIRQVTETIAMIEEQNFDIRTITMGISLLDCIDPDINRAAEKIYQKITTKAANLVAVGDEIAAELGIPVKNRVSVPISLIGAATDAT
DYVVLAKALDKAAKEIGVDFIGGFSALVQKGYQKGEILINSIPRALAETDKVCSSVNIGSTKSGINMTAVADMGRHIIKETANLSD
MGVAKLVVFANAVEDNPFMAGAFHGVGEADVIVNVGSGPGVVKRALEKVRGQSFVVAETVKKTAFKITRIGQLVGQMASERL
GVEFGIVDLSLAPTPAVGDSVARVLEEMGLETVGTHGTTAALALLNDQVKKGGVMACNQVGLSGAFIPVSEDEGMIAAVQNGS
LNLEKLEAMTAICSVGLDMIAIPEDTPAETIAAMIADEAAIGVINMKTTAVRIIPKKGEGDMIEFGGLGTAPVMKVNAGASSVDFISR
GGQIPAPIHSFKNZ

(SEQ. ID. NO. 31)

MTQIIDGKALAAKQQLAEKTAKLKEETGLVPGLVVILVGDNPASQVYVRNKRERSALAAGFRSEVVRVPETITQEELLDLIAKYN
QDPAWHGILVQLPLKHIDEEAVLLAIDPEKDVDFHPLNMGRWLSGHPVMIPSTPAGIMEMFHEYGIDLEGKNAVVGIRSNIVGK
PMAQLLLAKNATVTLTSHRTHNLKVAADILVVAIGRAKFVTADFVKPGAVVIDVGMNRDENGKLCGDVDYEAAPLASHIT
PVPGGVGPMTITMLMEQTYQAALRTLDRKZ

(SEQ. ID. NO. 32)

MSKFNRHILVVLDSVGIGAAPDANNFVNAGVDPDGASDTLGHISKTVGLNVPNMAKIGLGNIPRETPLKTVAAESNPTGYATKLEEV
SLGKDTMTGHWIEMGLNITEPFDTFWNGFPPEILTKEIEFSGRKVIREANKPYSGTAVIYDFGPRQMETGELIITYSADPVLQIAAHE
DIIPDELRYRICEYARSITLERPALLGRIIARPYVGEFGNFTRTANRRDLAVSPFFPTVLDKLNEAGIDTYAVGKINDIFNGAGINHDM
GHNKSNSHGIDTLLKTMGLAEFEKGFSFTNLVDFDALYGHRRNAHGYRDCLEHFDERLPEIIAAMRENDLLITADHGNDPTYAG
TDHTREYIPLLAYSPAFKGNGLIPVGHFADISATVADNFGVETAMIGESFLDKLVZ

(SEQ. ID. NO. 33)

MFISISAGIVTFLTLVEIPAFIQFYRKAQITGQQMHEDVKQHQAAGTPTMGGVLFLITSVLVAFFFALFSSQFSNNVGMILFILVLY
GLVGLDDFLKVFVKINEGLNPKQKLALQLLGGVIFYLYFERGGDILSVFGYPVHLGFFYIFFALFWLVGFSNAVNLTGVDGLASI
SVVISLSAYGVIAVYVQGMIDILLVILAMIGGLLGFIFNHKPAKVFMDVGSALGGLMAAISMALHQUEWTLLIIGIVYVFETTSVM
MQVSYFKLTGGKRIFRMTVPVHHHFELGGLSGKGNPWEWKVDFFWVGVLASLLTLAILYLMZ

(SEQ. ID. NO. 34)

LFKKNKDILNIALPAMGENFLQMLMGMVDSYLVLAHLGLIAISGVSVAGNIITTYQAIFIALGAAISSVISKSIGQKDQSKLAYHVTEA
LKITLLLSFLLGFLSIFAGKEMIGLLGTERDVAESGGYLSLVGGSIVLLGLMTSLGALIRATHNPRPLVVSFLSNALNIFSSLAIFV
LDMGIAGVAVGTIVSRLVGLVILWSQLKLPYKPTFGLDKELLTALPAAGERLMMRAGDVVIALVVSFGTEAVAGNAIGEVLT
QFNYPMPAFGVATATVMLLARAVGEDDWKRVASLSKQTFWLSLFLMLPLSFSIYVLGVPLTHLYTTDSLAVEASVLVTLFSLGLTP
MTGTVIYTAVWQGLGNARLPFYATSIGMWCIRIGTGylmGIVLGWGLPGIWAWSLLDNGFRWFLRYRYQRYMSLKGZ

(SEQ. ID. NO. 35)

MQTQEKHSQAVALGLQHLLAMYSGSILVPIMIALGYSAEQLTYLISTDIFMCGVATFLQLQLNKYFGIGLPPVLGVAFQSVAPLI
MIGQSHGSGAMFGALIASGIYVVLVSGIFSKVANLFPISVTGSVITIGTLIPVAINMGNNVPEPTGQSLLAAITVLIILLINIIFTKG
FIKSISILIGLVGTAAIATMGLVDFSPVAVAPLVHVPTPLYFGMPTFEISSIVMMCIATVSMVESTGVYALSDITKDPIDSTRLRNG
YRAEGLAVLLGGIFNTFPYTGFSQNVGLVKLSGIKKRLPIYYAAGFLVLLGLLPKFGALAQIIPSSVLGGAMLMVFGFVSIQGMQIL
ARVDFANNEHNFILAAVSAAGVGLNNSNLFVSMPTAFQMFFSNGIVVASLLAIVLNAVLNHKKKZ

(SEQ. ID. NO. 36)

MKDRIKEYLQDKGKVTNDLAQALGKDSSKDFRELKTLISLMEKHKQIRFEEDGSLTLEIKKKHEITLKGIFHAHKNNGFGFVSLEGE
EDDLFVGKNDVNYAIDGDTVEVVIKKVAADRNGKGTAAEAKEIIDILEHSLTTVVGVQIVLDQEKPKYAGYIRSKNQKISQPIYVKKPAL
KLEGEVLKVFIDKYPSKKHDFVAVSLDVVGHSTDVGDVLEVLSEMDIVSEFPEAVVKEAESVPDAPSQKDMEGRLDLRDEITF
TIDGADAKDLDDAVHIKALKNGNLEFGVHIADVSYVTEGSALDKEALNRATSYYVTRVVPMLPERLSNGICSLNPQVDRLTQS
AIMEIDKHGRVVNYTITQTVIKTSFRMTYSDVNDILAGDEEKREYHKIVSSIELMAKLHETLENMRVKGALNFDNEAKLVDK
QGKPVDIVLRQRGIAERMIESFMLMANETVAEHFSKLDLPFIYRIHEEPKAEKVQKFIDYASSFGLRIYGTASEISQEALQDIMRAVE
GEPYADVLSMMLLRSMQQARYSEHNHGHYGLAADYYTHFTSPIRRYPDLLVHRMIRDYGRSKEIAEHFEQVPEIATQSSNRERRA
IEAEREVEAMKKAEMYEEYVGEEDYDAVSSIVKFLFVELPNTVEGLIHITNLPEFYHFNERDLTLRGEKSGITFRVGOQIRIRVERA
DKMTGEIDFSFVPEFDVIEKGLKQSSRSRGRDRSNRRSDKKEDKRKSGRSNDKRKHSQKDKKKKGKPPYKEVAKKGAKHGK
RGKGRRTKZ

(SEQ. ID. NO. 37)

MGTGTGTIIDLIIIVYLLAVLVAGIYFSKKEMKGKEFFKGDGSPVWYVTSVSIFATMLSPIFLGLAGSSYAGSWILWFAQLGMVV
AIPLTIRFILPFIARIDIDTAYDYLDKRFNSKALRIISALLFIYQLGRMSIIMYLPASGLSVLTGIDINILIMGVVAIVYSYTGGKLSVL

WTDFIQGVILISGVVLALFVLIANIKGGFGAVAETLANGKFLAANEKLFDPNLLSNSIFLIVMGSGFTILSSYASSQDLVQRFTTTQNI
KKNLKMFLTNGVLSLATATVFLYLGITGLYVFFYQVQNADSAASNIPQDQIFMYFIA YQLPVGITGLILAAIY AASQSTISTGLNSVATS
WTLDIQDVISKNMDSNRRTKIAQFVSLAVGLFSIGVSIVMAHSDIKSAYEWFNSFMGLVLGLLGGVFILGFVSKKANKQGAYAALI
VSTIVMVFYK YFLPPTAVSYWAYSLISISVSVSGYIVSVLTGNKV SAPKYTTIHDITEIKADSSWEVRHZ

(SEQ. ID. NO. 38)

MKFSKKYIAAGSAVIVSLSCAYALNQHRSQENKDNRRVSVYVDGSSQSKSENLTDPQVSQKEGIAEQIVIKITDQGYVTSHGDH
YHYNGKVYPYDALFSEELMKDPNYQLKDADIVNEVKGGYIHKVDGKYVYVLKDAHADNVRTKDEINRQKQEHVKDNEKVNS
NVAVARSQGRYTTNDGYVFNPAHIEDTGNAYIVPHGGHYHYIPKSDLSASELAAKAHLAGKNMQPSQLSYSSTASDNNTQSV
KGSTSKPANKSENQLSLLKELYDSPAQRYSSESDGLVFDPAKISRTPNGVAIPHGDHYHFIPYSKLSALEEKIARMVPISGTGSTVST
NAKPNEVVSSLGSLSSNPSSLTTSKELSSASDGYIFNPKDIVEETATAYIVRHGDHGFHYIPKSNQIGQPTLPNNSLATPSPSLPINPGTS
HEKHEEDGYGFDANRIIAEDESFGVMVSHGDHNYFFKKDLTEEQIKVRKNIZ

(SEQ. ID. NO. 39)

MKKRAIVAVIVLLIGLDQLVKSIVYQQIPLGEVRSWIPNFVSLTYLQNRGAAFSILQDQQLFAVITLVVVIGAIWYLHKHMEDSF
WMVLGLTLIIAGGLGNFIDRVSQGFVDMFHLDFINFAIFNVADS YLTGVGVIILLIAMLKEEINGNZ

(SEQ. ID. NO. 40)

MNTNLASFIVGLIIDENDRFYVQKDGQTYALAKEEGQHTVGDTVKGFAYTDMKQKLRLTTLEVTATQDQFGWGRVTEVRKDLG
VFVDITGLPDKEIVVSLDILPELKELWPKKGDQLYIRLEVDKDDRIWGLLAYQEDFQRLARPA YNNMQNQNPVPAIVYRLKLSGTFV
YLPENNMLGFIHPSERYAEPRLGQVLDARVIGFREVDRTLNLSLKPRSEMLENDAQMILTYLESNGGFMTLNDKSSPDDIKATFGI
SKGQFKKALGGLMKAGKIKQDQFGTELIZ

(SEQ. ID. NO. 41)

MKDVSFLKKVFKSRNLNWIVLALFVSVLGVTFYLSQNTANSHSLESRLSRIANERAINENEEKLSQMSDTSSEYQFAKNLD
VQKNLLTRKTEILTLLKEGRWKEAYYLQWQDEEKNEYEFVSNPDPTASPLKMGVDRERKIYQALYPLNIKAHTLEFPTHGIDQIVWI
LEVIPSLFVVAIIFMLTQLFAERYQNHLDTAHLYPVSKVTFATSSILGVGVGYYTVLFIGICGFSFLVGSLSISGFGQLDYPYPIYSLVNQ
EVTIGIKIQDVLFPGLLLAFLAFIVIVEVVYLIA YFFKQKMPVFLSLIGIVGLLFGIQTIQPLQRIAHLPFTYLRVSEILSGRLPKQIDNV
DLNWSMGMLVLLPCLIIIFLLGILFIERWGSSQKKEFFNRFZ

(SEQ. ID. NO. 42)

MMKFILDIVSTPAILVALIAILGLVLQKKLPDIKGGIKTFVGFLVVS GGAGIVQNSLNPFGTMFEHAFHLSGVVPNNEAIVAVALT
TYGSATAMIMFAGMVFNILARFTRFKYIFLTGHHTLYMACMIAVILSVAGFTSLPLILLGGLALGIMSISPAFVQKYMVQLTGNDK
VALGHFSSLGYWLSGFTGSLIGDKSKSTEDIKFPKSLAFLRDSTVSITLSMAVYIIVAIFAGSEYIEKEISSGTSGLVYALQLAGQFAA
GVFVILAGVRLILGEIVPAFKGISERLVNSKPAIDCPIVTYAPNAVILGFISSFVGGVLSMVIMIASGTVVILPGVVPFFCGATAG
VIGNASGGVRGATIGAFQLGILISFLPVFLMPVLGGLGFGQSTFSADADFLSGIILGMLNQFGSQAGIVIGLVILAVMFGVSFIKKPS
ATEEZ

(SEQ. ID. NO. 43)

MIKTFLSALSIVLFSIPIITYSFFSSNLNIWLSTQPILAQIYAFPLATATMAAAILSFLFFLSFYKKNKQIRFYSGILLLLSLILLFGTDK
TSSASNKTTLKLVTVNANQIEAQHIERIFSHFDADMAIFPELATNIRGEQENQRIKLLFHQVGLSMANYDIFTSPTNSGIAPVT
VIVKKS YGFYTEAKTFHTTRFGTIVLHRSRKNIPDIIALHTAPPLPGLMEIWKQDLNIIHNQLASKYPKAIAGDFNATMRHGALAKI
SSHRDALNALPPFERGTWNSQSPKLFNATIDHILLPKNHYYVKDLDIVSFQNSDHRCIFTEITFZ

(SEQ. ID. NO. 44)

MNPIQRSWAYVSRKRLRSFILFLILLVLLAGISACLTLMKSNKTVESNLYKSLNTSFSIKKIENGQTFKLSDLASVSKIKGLENVSP
ETVAKLKDKAEVTEQESVERDDLSAADNNLVSLTALEDSSKDVTFSTSAFNLKEGRHLQKGDSSKILIHHEELAKKNGLSLHDKIGL
DAGQESGKGQTVEGFIHIFSGKKQEKFTGLSSDSENQVFTDYESSQTLLGNSEAQVSAARFYVENPKEMDGLMKQVENLAL
QGYQVEKENKA FEQIKDSVATFQTFLTIFLYGMLIAGAGALILVLSLWLRERVVEVGILLALGKGKSSIFQFCLEVVVLVSLGALLP
AFVAGNAITTYLLQTLASGDQASLQDTLAKASSLTSILSFAESYVFLVLLSCLSVLALCFLFLFRKSPKEILSSISZ

(SEQ. ID. NO. 45)

MLHNFAFYVTRKFFKSIVIFLIILLMASLSLVGLSIK GATAKASQETFKNITNSFSMQINRRVNQGTGPRGAGNIKGEDIKKIKENKAIE
SYVKRINAIGDLTG YDLIETPETKKNLTADRKRFGSSLMITGVNDSSKEDKFVSGSYKLVEGEHLTNDKDKILLHKDLAAKHG
WKVGDKVKLDSNIYDADNEKGAKETVEVTIKGLFDGHNKSATVYSQELYENTAITDIHTAAKLYGYTEDTAIYGDATFFVTADK
NLDDVMKELNGISGINWKS YTLVKSSSNYPALQESISGMYKMANLLFWGSLSFVLLALLLSLWINARRKEVGILLSIGLKQASIL
QGFITESILIAIPALVSAYFLANYTARAIGNTVLANVTSGVAKQASKAAQASNLGGGAEVDFGSKTLLSSLDISIQTSDFIHFV LALVLV
VLVMALASSNLLRKQPKELLDDGEZ

(SEQ. ID. NO. 46)

MSQDKQMKAVSPLLQRVINISSIVGGVGLSIFCIWAYQAGILQSKETLSAFIQQAGIWGPPLFIFLQILQTVVPIPGALTSVAGVFIYG
HIIGTIYNYIGIVIGCAIIFYLVRLYGAAAFVQSVVSKRTYDKYIDWLDKGNRFRDFFIFMMIWPISPADFLCMLAALT KMSFKRYMTII
ILTKPFTLVVYTYGLTYIIDFFWQMLZ

(SEQ. ID. NO. 47)

MRNMWVVIKETYLRHVESWSFFFMVISPFLFLGISVGIGHLQGSSMAKNKVA VVTTVPVSAEGLKNVNGVNFYKDEASAKEAI
KEEKLKGYLTIDQEDSVLKAVYHGETSLENGIKFEVTGTLNELQNQLNRSTASLSQEQEKR LAQTIQFTEKIDEAKENKKFIQTIAA
GALGFFLYMILITYAGVTAQEVASEKGT KIMEVVFSSIRASHYFYARMMAFLVLTHIGIYVVGGLAAVLLFKDLPFLAQSGILDH
LGDALSNTLLFILISLFIYVLLAFLGSMVSRPDSGKALSPMLIMMGFGFV TALGAAGDNLLKIGSYIPFISTFFMPFRITINDY
AGGAEAWISLAITVIFAVVATGFIGRMYASLVLTQDLDGIWKTFRKALSYKZ

(SEQ. ID. NO. 48)

MTETIKLMKAHTSVRRFKEQEIPQVDLNEILTAAQMASSWKNFQSYSVIVVRSQEKKDALYELVPQEAIRQSAVLLFVGDNLRAE
KGARLHTDTFQPQGV EGLLISSVDAALAGQNALLAAESLGYGGVIIGLVRYKSEEV AELFNLPDYTYSVFGMALGVPNQHHDMKP

RLPLENVVFEEYQEOSTEAIQAYDRVQADYAGARATTSWSORLAEQFGQAEPSSTRKNLEQKKLLZMLKLIIVGTNSKRSTNR
QLLQYMQKHFTDKAEIELVEIKAIPVFNKPADKQVPAEILEIAAKIEEADGVIIGTPEYDHSIPAVLMSALAWLSYGIYPLLNKPMIT
GASYGTLGSSRAQLQLRQILNAPEIKANVLPDEFLLSHSLQAFNPSGDLVDLDVIKKLDAIFDDFRIFVKITEKLRNAQELLRKDAED
FDWENZ

(SEQ. ID. NO. 49)

MNTYQLNNGVEIPVLGFGTFKAKDGEEAYRAVLEALKAGYRHIDTAATYQNEESVGQAIKDSGVPREEMFVTTKLWNSQQTYEQ
TRQALEKSIEKLGLDYLILYHWPNNPKPLRENDWKTNAEVRAMEDLYQEGKIRAIQVSNFLPHHLDALLETATIVPAVNQV
RLAPGVYQDQVVAAYCREKGILLEAWGPFQGGELFDSKQVQEIAANHGKSVAQIALAWSLAEGFLPLPKSVTTSRIQANLDCFGIEL
SHEERETLKTIQVQSGAPRVDDVDFZ

(SEQ. ID. NO. 50)

MRCKMLDPIAIQLGLPAIRWYALCIVTGLILAVYLTMTKEAPRKKIIPDDILDFILVAFPLAILGARLYYVIFRFDYYSQNLGEIFAIWN
GGLAIYGGITGALVLYIFADRKLINTWDFLDIAAPSVMIASQLGRWGNFFNQEAYGATVDNLDYLPGFIRDQMYIEGSYRQPTFL
YESLWNLGFGALILIFRRKWKSLRRGHITAFYLIWYGFGRMVIIEGMRDLSLFFGFRVSQWLSVVLIGLGIMIVYQNRKKAPYYIT
EENZ

(SEQ. ID. NO. 51)

MGKLSSILLGTVSGAALALFLTSDKGKQVCSQAQDFLDDLREDPEYAKEQVCEKLTVEVKEQATDFVLKTKEQVESGEITVDSILAQ
TKSYAFQATEASKNQLNNLKEQWQEKAEALDDSEEIVIDITEEZ

(SEQ. ID. NO. 52)

MKTKLIFWGSMLFLLSILLTIYLAWIFYPMIEIQLNLNTRVYLKPETIQYNFHLNMNYLTNPFSQVQLQMPDFRSSAAGLHHFAV
KNLHFLVQLVALVTLPSFYVFNRIKDFLSLYRKSLLALVVLPMIGLGGVIGDFQFFTLFHQILFVGDDTWLFDPAKDPVIMI
LPETFFLHAFLLFFALYENFFGYLYLKSRRKZ

(SEQ. ID. NO. 53)

MTYHFTTEYDIIVIGAGHAGVEASLAASRMGCKVLLATINIEMLAFMPCNPISIGGSAGKIVVREVDALGGEMAKTIDKTYIQMKML
NTGKGPAVRALRAQADKELYSKEMRKTVENQENLTLRQTMIDEILVEDGKVVGVRTATHQEYAAKAVIVTTGTALRGEIIGDLK
YSSGPNHSLASINLADNLKELGLEIGRFKTGTPPRVKASSINYDVTEIQPGDEVNHFYSYTSRDEYVKDQVPCWLTYTNGTSHEIIO
NNLHRAPMFTGVVKGVPYCPYSEDKIVRFADKERHQLFLEPEGRNTEEVYVQGLSTSLPEDVQRDLVHSIKGLENAEMMRGTG
AIEYDMVLPQLRATLETKKISGLFTAGQTNGTSGYEEAAGQGIIAGINAALKIQGKPELILKRSYGIGVMIDDLVTKGTIEPYRLL
TSRAEYRLILRHDNADMRLTEMGREIGLVDDERWARFEIKKNQFDNEMKRLDSIKLKPVKETNAKVEEMGFKPLTDAVTAKEFLR
RPEVSYQDVVAFIGPAAEDLDDKIIELIETIEIKYEGYISKAMDQVAKMKRMEEKRIPANIDWDDIDSIALEARQKFKLINPETIGQAS
RISGVNPADISILMVYLEGKNRSISKTLQSKZ

(SEQ. ID. NO. 54)

MTKQVLLVDDDEHILKLLDYHLSKEGFSTQLVTNGRKALALAEETPFDFILLDIMPQLDGMVECKRLRAKGVKTPIMMVSAKSD
EFDKVLALLEGADDYLTKPFSPRELLARVKAFLRRTKGEQEGDDSDNIADDSWLFGLTKVYPERHEVYKANKLLSLTPKEFESDK
NPFEVFKVSKVTAQZ

(SEQ. ID. NO. 55)

MTTFKDGFLWGGAVAHAHQLEGGWQEGGKGISVADVMTAGRHGVAREITLGVLEGKYYPNHEAIDFYHRYKEDIALFAEMGFKC
FRTSIAWTRIFPKGDELEPNEEGLQFYDNLFDECKNGIEPVITLSHFEMPYHLVTEYGGWKNRKLIDFFARFAEVVFKRYKDKVK
YWMFTNEINNQANYQEDFAPFTNSGIVYEEGDNREAIMYQAAHYELVASARAVKIGHEINPDFQIGCMIAMCPIYPVTCNPKDILM
AMKAMQKRYFFADVHLGKYPEHIFKYWERKGISVDFTAQDKEDLLGGTVDYIGFSYMSFAIDSHRENNPYFDYLETEDLVKN
NYVKASEWEWQIDPEGLRYALNWFTDHYHLPLFIVENGFGAIDQVAADGMVHDDYRIEYLGAIHIREMKKAVVEDGVDLMGYTP
WGCIDLVSAGTGEMRKRYGFIYVDKDDNGKGSYNRSPKKSFGWYKEVISSNGESVEZ

(SEQ. ID. NO. 56)

MDQQNGLFGFLENHVMGPMGKLAQFKVVRITAAGMAAVPFTIVGSMFLVFSILPQAFSFWPIVADIFSASFDFKFTSLYMVANYA
TMGSLSLYFVLSLAYELTKIYAEEEEELNMNPLNGALLALMAFVMTVPQIIFDGGMMKTVTSLKEGAVIADGWAMGNVVARFGTT
GIFTAIIAIVTVLIYRMCVKNHWIKMPEAVPEGVSRGFTALVPGFVAVFVIFINGLLVAMGTDIFKVIAPFGFVSNLTSNWIGL
MIYLLTQLLWIVGIHGANIVFAFVSPIALANMAENAAGGHFAVAGEFSNMFIAGGSGATLGLCLYIAFASKSEQLKAIGRASVVP
ALFNINEPLIFGLPIIYNPALAIPFILAPMVTATIIYVANSLNFIKPIIAQVPWPPTVGIGAFLGTADLRAVLVALVCAFAFLVYLPFIR
VYDQKLVKEEQGIZ

(SEQ. ID. NO. 57)

MKKFYVSPPIFPLVGLIAFGVLSTFIIFVNNNLLTVLILFLFVGGYVFLFKKLRVHYTRSDVEQIYVNHQAEESLTALLEQMPVGVM
KLNLSSEGEVWFNPAELILTKEGDGDFLEAVQTIKASVGNPSTYAKLGEKRYAVHMDASSGVLYFVDVSREQAITDELVTSRPV
IGIVSDNYDDLEDETSQINSFVANSIFSEKHMMFSRRVSMDFYLFDTYTVLEGLMNDKFSVIDAFREESKQRQLPLTSL
MGFSYGDGNHDEIGKVALLNLAEVRRGGDQVVVKENDETKNPVYFGGSAASIKRTRTRTRAMMTAISDKIRSDQVVFVGHK
NLDMDALGSVGMQLFASNVNIENSYALYDEEQMSPDIERAVSFIEKEGVTKLLSVKDAMGMVTNRSLLILVDHSTALTLSKEFY
DLFTQTIVIDHHRDQDFPDNAVITYIESGASSASELVTIELQFQNSKKNRSLRMQASVLMAGMMLDTKNFTSRVTSRTFDVASYL
RTRGSDSIAIEAATDFEYREVNELILQGRKLGSVDLIAEAKDMCYDTVVISKAADAMLAMSGIEASFVLAKNTQGFISISARS
SKLNVQRIMEELGGGHHFNLAQAQIKDVTLSEAGEKLTIEVLNEMKEKEKEEZ

(SEQ. ID. NO. 58)

MKEKNMWKELLNRAGWILVFLAVLLYQVPLVVTSLTLKEVALLQSLIVAGLSIVVLALFIMGARKTKLASFNFSFFRAKDLAR
LGLSYLVIVGNSNLQSILLQLSNETTTANQSQINDMVQNSSLISFFLLALLAPICEILCRGIVPKKIFRGKENLGFVVGTVFALLHQP
SNLPSLLIYGGMSTVLSWTAYKTQRLEMSILLHMIVNGIAFCLLALVIMSRTLGISVZ

(SEQ. ID. NO. 59)

MKEKNMWKELLNRAWILVFLAVLLYQVPLVVTSTLTLKEVALLQSGSLIVAGLSIVVLALFIMGARKTKLASFNFSFFRAKDLAR
LGLSYLVIVGSLNIGSILLQSNETTANQSQINDMVQNSSLSISFFLLALLAPICEEILCRGIVPKIFRGKENLGFVVGTVIFALLHQF
SNLPSLLIYGGMSTVLSWTAYKTQRLEMSILLHMIVNGIAFCLLALVVIMSRTLGISVZ

(SEQ. ID. NO. 60)

MDTQKIEAAVKMIEAVGEDANREGLQETPARVARMYQEIFSGLGQTAEHLSKSFEIIDDNMVVEKDIFFHTMCEHHFLPFYGRA
HIAYPDGRVAGLSKLARTVEVYSKKPQIQERLNIEVADALMDYLGAKGAFVVEIAEHMCMMSMRGVKPGTATLTTVARGLFETD
KDLRDQAYRLMGLZMKDLFLKRKQAFRKECLGYLRYVLNDHFVFLFLLVLLGFLAYQYSQLLQHFPENHWPIILFVGITSVLLLLW
GGTATYMEAPDKLFLLVGEEIEKLHLKRQTGISLVFWLFTVTLFLLFAPFLAMGYGLPVFLLYVLLLVGVGKYFHFQKASKFT
ETGLDWDYVISQESKRKQVLLRFFALFTQVKGISNSVKKRAYLDFILKAVQKVPKGIWQNLVLRSLYRNGDLFALSRLLLSLLA
QVFIEQAWIATAVVVLFNYLLLQLLALYHAFDYQYLTQLFPLDKGQKEKGLQEVVRGLTSFVLLVELLVGLITFQEKALLALLG
AGLVLVLYLPYQVKRQMQDZ

(SEQ. ID. NO. 61)

MRKSIVLAADNAYLIPLLETTIKSVLYHNRDVDFYILNSDIAPEWFKLLGRKMEVNVNSTIRSVHIDKELFESYKTGPHINYASYFRFFA
TEVVESDRVLYLDSDIIVTDELATLFEIDLKGYSIGAVDDVYAYEGRKSGFNTGMLLMDVAKWKEHSIVNSLLELAAEQNQVVHL
GDQSILNIYFEDNWLALDKTYNYMVGIDYHLAQECERLDDNPPTIVHYASHDKPWNTYSSIRLRELWWVYRDLWDWSEIAFORSD
LNYFERSNQSKKQVMLVTWSADIKHLEYLVQRLPDWHFHLAAPCDCSEELTSLSQYTNVTYQNVLHRSRIDWLLDDSIYVLDINT
GGEVFNVTTRAQESGKKIFAFDITRKSMDGGLYDGIFSVERPDDLVDKMKNIEIEZ

(SEQ. ID. NO. 62)

MTKIYSSIAVKKGLFTSFLFIYVLGSRILPFVDLNTKDFLGGSTAYLAFSAALTGGNLRSLSFVGLSPWMSAMILWQMFSFSKRL
GLTSTSIEIQDRRKMYLTLLIAVQLSLAVSLRPLVQSSYSAILVVLMTILLIAGTFFLVWLSLNASMGIGGSIVILLSSMVLNIPQDV
LETFQTVHIPTGHIIVLLALLTLVFSYLLALMYRARYLVPVNKIGLHNRFRKYSYLEIMLNPAGGMPYMYVMSFLSVPAYLFILLGFIF
PNHSGLAALSKEFMVKGKPLWVYVYISVLFSLIIFAFVTMNGEEIADRMKKSGEYIYGIYPGADTSRFINRLVLRFSVIGGLFNVIMA
GGPMLFVLFDEKLLRLAMIPGLFMMFGMIFTIRDEVKALRLNETYRPLIZ

(SEQ. ID. NO. 63)

MSSLSDELVAKTVEFRQLSEGESLDDILVEAFVVRREADKRILGMFPYDVQVMGAIVMHYGNVAEMNTGEGKTLTATMPVYL
NAPSSEGVMVVTTPNEYLSKRDAEEMGQVYRFLGLTIGVPFTEDPKKEMKAEKKLIYASDIYTINSNLGFDYLDNDLASNEEGKF
LRPFNYIIDEIDILLDSAQDTPLIAGSPRVQSNYYAIDTLVTLVEGEDYIFKEEKEEVWLTTKGAKSAENFLGIDNLYKEEHASF
ARHLVYAIRAHKLFTKDKDYIIRGNEMVLVDKGTGRLMEMTKLQGGHLQAIEAKEHVKLSPETRAMASITYQSLFKMFNKISGMT
GTGKVAEKEFIETYNMSVVRIPTNRPRQRIDYPDNLYITLPEKVYASLEYIKQYHAKGNPLLVFVGSVEMSQLYSSLLFREGIAHNV
LNANNAAREAQIISSESGQMGAVTVATSMAGRGTDIKLGKGVAEGLGLIVIGTERMESQRIDLQIRGRSGRQGDPMGSKFFVSLEDD
VIKKFGPSWVHKKYKDYQVQDMTQPEVLKGRKYRKLVEKAQHASDSAGRSARRQTLLEYAESMNIQRDIVYKERNRLIDGSRDLE
DVVVDIERYTEEVAADHYASRELLFHFIVTNISFHVKEVPDYIDVTDKTAVRSFMKQVIDKELSEKKELLNQHDLYEQFLRLSLLK
AIDDNWVEQVDYLQQLSMAIGGQSASQKNPIVEYYQEAAYAGFEAMKEQIHADMVRNLLMGLVEVTPKGEIVTHFPZ

(SEQ. ID. NO. 64)

MIGTFAAALVAVLANFIVPIETPNSANTEIAPPDGIGQVLSNLLKLVDNPNVALLTANYIRILSWAVIFGIAMREASKNSQELLKTI
ADVTSKIVEWIINLAPFGLILVFKTISDKGVGSLANYGILLVLLVTTMLFVAPVNVNPLIAFFFMRRNPYPLVWNCRLRVSGVTAFFTR
SSATNIPVNMKLCHDLGLNPDYTSVSIPLGSTINMAGVAITINLLTAAVNTLGPVDFATAFVLSVVAIISCDASGIAGGSLLLIPV
ACSLFGISNDIAIQIVGVGFVIGVIQDSCETALNSSTDVLFATAVEYAATRKKZ

(SEQ. ID. NO. 65)

MSISQRTTKLILATCLLAYFLNLSSAVSAGIALLSLDTRRSTLKLARNRLFSMLLALAIGVLAFLHLSGFHIWSLGLYLAFYVPL
AYKMGWEIGITPSTVLVSHLLVQUESTPDLLVNEFLFAIGTGFAALLVNLMPYSREEEIQHYHTLVEEKLKDILQRFKYLSRGDGR
NRAQLVAELDTLLKEALRLVYLDHSDHLFHQTDYHIHYFEMRQRQSRILRNMAQQINTCHLAASESLILAQLFSKIAQGLSQTNPA
SDLLDEIERYLEVFRNRSPLKTRFEFETRATLLQLLREAKTFIQVKVDFYQKYRQZ

(SEQ. ID. NO. 66)

MEIMSLAIAVFAVIIGLVIGYVSISAKMKSSQEAELMLLNAEQEATNLRGQAEREADLLVNEAKRESKSLKKEALLEAKEEARKY
REEVDAEFKSERQELKQIESRLTERATSLDRKDDNLTKEQTLQEQESISDRAKNLDAREEQLEEVERQKEAELERIGALSQAEAR
DILAQTEENLTREIASRIEAEQEVKERSDKMAKDILVQAMQRIAGEYVAESTNSTVHLPDDTMKGRIIGREGNRNIRTFESLTGVDV
IIDDTPVVTLSGFDPIRREIARMTMEMLLKDGRIPARIEELVEKNRQEIENKIREYGEAAAYEIGAPNLHPDLMKIMGRQLQFRTSY
GQNVLRHSIEVAKLAGIMASELGENAALARRAGFLHDIGKAIDHEVEGSHVEIGMELARKYKEPPVVVNTIASHHGDVEAESVIAV
IVAAADALSAARPGARSESLESYIKRLHDLLEEANGFEGVQTSFALQAGREIRIMVNPGKIKDDKVTLAHKVRKKIENNLDYPGNI
KVTVIRELRAVDYAKZ

(SEQ. ID. NO. 67)

MMLKPSIDTLLDKVPKSKYSLVILEAKRAHELEAGAPATQGFKSEKSTLRALEEIESGNVTIHPDEPGKREAVRRRIEEERKRKEEEEK
KIKEQIAKEKEDGEKIZ

(SEQ. ID. NO. 68)

MSAYQLPTVWQDEASNQGAFTGLNRPTAGARFEQNLPKGEQAFQLYSLGTPNGVKVTILLEELLEAGFKEAAYDLYKIAIMDGDQ
FGSDFVKNLNPNSKIPALLDQSGTENVRVFESAHILLYLAKEKFGAFLSPNPVEKVEVLNWLFWQAGAAPFLGGGFGHFFNYAPEKLE
YPINRFTMEVKRQLDLLKELAQKPYIAGNDYTIADIAIWSWYGQLVQGNLYQGSAKFLDASSYQNLVKWAEKIANRPAVKRGL
EVTYTEIKZ

(SEQ. ID. NO. 69)

LASLITSIMFYVGFVDLRDTIQKLSREETVIDPLGATLGHISAAIMFVYLYNTRLSKKSNSNALKAAAKDNLSDAVTSLGTAIAILA
SSFNYPIVDKLVAIITFFILKTAIDIFISSFSLSGDFDRLLLEDYQKAIMEIPKISKVKSQRGRTYGSNIYLDITLEMNPDLVSFESHEI
ADQVESMLEERFGVFDTDVHIEPAIPEDEILDNYYKLLLMREQLIDQGNQLEELLTDFFVYIRQDGEQMDKEAYKTKKELNSAIK
DIQITSISQKTKLICYLELDGIIHTSIWRRHETWQNIHFQETKKEZ

(SEQ. ID. NO. 70)

MTIKLVATMDMGTFLDGNGRFDMDRLKSLLSYKEKGIYFAVASGRGFLSLEKLFAGVRDDIIFIAENGLVEYQGQDLYEATMS
RDFYLATFEKLTSPYVDINKLLLTGKKGSYVLDTVDETYLKVSQHYNENIQKVASLEDITDDIFKFTTNFTEETLEDGEAWVNEN
VPGVKAMTTGFESIDIVLDYVDKGVAIVELVKKLGITMDQVMAFGDNLNDLHMMQVVGHVPAPENARPEILELAKTVIGHHKKR
SVIAYMEGLZ

(SEQ. ID. NO. 71)

MADIKLIAALDLDGTLTTDKRLTDRKTETLQAARDRGIKVVLTTRPLKAMDFFLHELGTGQDEYETITFNGGLVQKNTGEILDK
TVFSYDDVARLYEETEKLSPDAISEGTVYQIQSDQESLYAKFNPALTFVPVDFEDLSSQMTYNKCVTAFAQEPLDAAIQKISPELF
DQYEIFKSREMLLEWSPKNVHKATGLAKLISHLGIDQSQVMACGDEANDLSMIEWAGLGVAMQNAVPEVKAAANVTPMTNDE
EAWAWAIEEYVLKENZ

(SEQ. ID. NO. 72)

MESLLILLIANLAGFLIWQRQDRQEKHLSKSLEDQADHLSQDLDRFDQARQASQLDQKDLEVVSDDLQEVRIELHQGLTQV
RQEMTDNLLQTRDKTDQRLQALQESNEQRLEQMRQTVEEKLEKTLQTRLQASFETVSKQLESVNRGLGEMQTVARDVGALNKV
LSGKTRKRGILGELQLGQIIEDIMTPAQYEREYATVENSSEVEYAIKLPQGQDQYVYLPIDSKFPLADYYRLEEAYETGDKDEIERC
RKSLLASVKRFARDIRNKYIAPPRTTNFGVLFVPTGELYSEIVRNPVFFDDLREEQIIVAGPSTLSALLNSLSVGFKTLNIQKSADHIS
KTLASVKTEFGKFGGILVKAQKHLQHASGNIDELNRRITAIERTLRHIELSEGEPAIDLLHFQENEEYEDZ

(SEQ. ID. NO. 73)

MKISHMKKDELFEFGFYLIKSAADLRQTRAGKNYLAFTFQDDSGEIDGKLWDAQPHNIEAFTAGKVVMKGRREVYNNTQVNOIT
LRLPQAGEPNPADFKVKSPPVDVKEIRDYMSQMIFKIENPVWQIVRNLYTKYDKEFYSYPAAKTNHHAFETGLAYHTATMVRL
ADAISEVYPQLNKSLLYAGIMLHDLAKVIELTGPQDQTEYTVRGNLLGHIALIDSEITKTVMELGIDDTKEEVLLRHVILSHHGLLE
YGPSPRPRIMEAIIHMIDNLDASMMMMSTALALVDKGEMTNKIFAMDNRSFYKPDLDZ

(SEQ. ID. NO. 74)

MSEKAKKGFKMPSSYTVLLIIAIAVLTWFIAPAGAFIEGIYETQPQNPGIWDVLMAPIRAMLGTHPEEGSLIKETSAAIDVAFFILM
VGGFLGIVNKTGALDVGIAIVKKYKGREKMLILVLMPLFALGGTTYGMGEETMAFYPLLVPVMMAVGFDLSLTGVAIILLGSQIGC
LASTLNPATGASATAGVGTGDGIVLRLIFWVTLTALSTWVYRYADKIQKDPTKSLVYSTRKEDLKHFNVEESSVESTLSSKQK
SVLFLFVLFILMVLSPFIPWTDLGVTFDDFNTWLTGLPVIGNIVGSSTSALGTWYFPEGAMLFAMGILIGVYGLKEDKIISSFMNG
AADLLSVALIVAIARGIQVIMNDGMITDITLWNGKEGLSGLSSQVFIWVYIFYLPMSPFLIPSSSGLASATMGIMAPLGEFVNVRPSLI
TAYQSASGVNLNLIAPTSGIVMGALALGRINIGTWKFMGKLVVAIIVVTIALLLLTGTFPLZ

(SEQ. ID. NO. 75)

MSNSFVKLLVSQFLANLADIFFRVTIIANIYIISKSVIATSLVPILIGISSFVASLLVPLVTKRLALNRVLSLSQFGKTILLAILVGMFTV
MQSVAPLVTYLFFVVAISILDGFAAPVSYAIVPRYATDLGKANSALSMTGEAVQLIGWGLGGLLFATIGLLPTTCINLVLYIISFLML
FLPNAEVEVLESETNLEILLKGWKLVARNPRLRFLVANSNLEIFSNTIIVVSSIILVFVTELLNKTESYWGYSNTAYSIGIIISGLIAFRLS
EKFLAAKWEQQLFTPNLKTIONPCLSLDPGWFLFSPNGCFLLDKKEFFLYGISVEKNTKRKETHMNSLPNNHFFQNKSFYQLSFDGG
HLTQYGGILFFQELFSQKLKERISKYLVNTDQRRYCRYSDSDILVQFLQLLTGYGTDYACKELSADAYFPKLEGGQLASQPTLS
RFLRTDEETVHSLRCLNLELVEFFLQFHQLNQLIVDIDSTHFTTYGKQEGVAYNAHYRAHGYHPLYAFEGKTGYCFNAQLRPGN
RYCSEEDSFTIPVLERFNQLLFRMDSGFATPKLYDLIEKTGQYYLIKLLKNTVLSRLGDLSLPCQDEDLTILPHSAYSETLYQAGS
WSHKRRVCQFSERKEGNLFYDVISLVNTMTSGTSQDQFQLYRGRGQAENFIKEMKEGFFGDKTDSSTLIKNEVRMMMSCIAYNLY
LFLKHLAGGDFQTLTKRFRHLFLHVVGKCVTRGRKQLLKLSSLYAYSELSALYSRIRKVNLLNPVPYEPPIRRKASLMMHZ

(SEQ. ID. NO. 76)

MMEFFQQLPHLEPYGNPQYFVYVIAATLPFIQGLFFKKRFAWYEVVLSLFFIVTMLVGGKTNQLAALGIYLCWEILLLLFYKHRYKS
KDGKWWFYLVSLSLPIIFVKVQPAINGTQSLGFLGISYLTFRSVGIVIELRDGVIKDFTLWEFLRFLFMPTFSSGPIDRFKRNFEN
YQAIPEDELMDMLDESRYIMWGFLYKFIHAHVLETLLPPLKNLALQSGGFNLYALAVMYTFGLELFFDFAGYSMPALAIISNL
MGIRSPINFNKPFLSRDLKEFWNRWHMSLSFWFRDFVFMVMVLTTRKKVFKNRNVTSMAIYVNMIMGFWHGVTWYYIAYG
LFHGLGLVINDAWVRKKKTLNKKERKKAGKAALPENRWIQLLGMVVTFFHVMSLFLIFSGFLNNLWFKKZ

(SEQ. ID. NO. 77)

MLKRLWMIFGPVLIAGLLVFLFIFFPYTEMHNLGAEKRSVAVATTIDSFKERSQKVRALSDPNVRFVPPFGSSEWLRFDAHPAVL
AEKYNRSYRYPYLLGQGAASLNQYFGMQMLPQLENKQVYVISPQWFSKNGYDPAAFQYFNGDQLTSFLKHQSGDQASQYA
ATRLQQFPNVAMKDLVQKLASKEELSTADNEMIELLARFNERQASFFGQFSVRGYVNYDKHVAKYLLKILPDQFSYQAIEDVVKA
DAEKNTSNEMGMENYFYNEQIKKDLKKLQDSQSFTYLSPEYNDLQVLVTQFSKSKVNPFIIPPVNKKWMNYAGLREDMYQ
QTVQKIRYQLESQGFNTIADFSKDGGEPPFMKDTIHLGLWLGWLAFDKAVDPFLSNPTPAPTYHLNERFFSKDWATYDGDVKEFQZ

(SEQ. ID. NO. 78)

MEKNLKALKQTTDQEGPAIEPEKAEDTKTVQNGYFEDAADVDRTLSDYAGNWQSVYPFLEDGTFDQVFDYKAKLTGKMTQAEY
KAYYTKGYHTDVTKINITDNTMEFVQGGQSKKYTYKYVGKKILTYKKGNRGVRFLFEATDADAGQFKYVQFSDHNVAPVKAEH
FHFFGGTSQEALFEEDMNWPTYYPDNLSGQEAQEMLAHZ

(SEQ. ID. NO. 79)

MKDGHLAHHRILLNGRIFQKLLSQDPEALYRGEQKILAVLWNSSETGCATATDIALATGLANNTLTMMIKKLEEQKLIVVSPCGK
DKRKKYLVLTGLKSKQKEVGHVRSQKLDITFYKGFSEEEIHQFEGFQERILANLKEKGNEVZ

(SEQ. ID. NO. 80)

MTNLIATFQDRFSDWLTALSQHLQLSLLTLLAILLAIPLAVFLRYHEKLADWVLQIAGIFQTIPLSALLGLFIPLMGIGTLPALTALV
IYAIFPILQNTITGLKGIDPNLQEGAGAFGMTRWERLKKFEIPLAMPVIMSGIRTAADVLIIGTATLAALIGAGGLGSFILLGIDRNNASLI
LIGALSSAVLAIAFNLLKVMKAKLRTIFSGFALVALLGLSYSPALLVQKEKENLVIAGKIGPEPEILANMYKLLIEENTSMATV
KPNFGKTSFLYEALKKGIDIDYFEFTGTVTESLLQPSPKVSHEPEQVYQVARDGIAKQDHLAYLKPMYSQNTYAVAVPKKIAQEY
LKTISDLKKVEGQLKAGFTLEFNDRDGNKGLQSMYGLNLSNVATIEPALRYQAIQSGDIQITDAYSTDAELERYDLQVLEDDKQLF
PPYQAGAPLMKEALLKHPELERVLNLTLAGKITESQMSQLNYQVGVEGSAKQVAKFEFLQEQLLKKZ

(SEQ. ID. NO. 81)

MMHTYLQKKIENIKTTLGEMSGGYRRMVAAMADLGFSGTMKAIWDDLFAHRSFAQWIYLLVLGSFPLWLELVYEHRIVDWIGMI
CSLTGIIICVIFVSEGRASNYLFLINSVIYLLALQKGFYGEVLTTLTYFTVMQPIGLLVWIYQAQFKKEKQEFVARKLDGKGWTKYL
SISVLWWLAFGFIYQSIGANRPYRDSITDATNGVGQILMTAVYREQWIFWAATNVFSIYLWWGESLQIQGKYLILYINSLVGWYQ
WSKAAKQNTDLLNZ

(SEQ. ID. NO. 82)

MRNMKAKYAVVWAFFLNLTAYIVEFIAGGVFGSSAVLADSVHDLGDAIAGISAFLETISNREEDNQYTLGYKRFSLLGALVTAVI
LVTGSLVILENVTKILHPQPVNDEGILWLGIIAITINLLASLVVGKGTKNESILSLHFLEDTLGWVAVILMAIVLRFTDWYILDPL
SLVISFFILSKALPRFWSTLKIFLDAVPEGLDIQVKSGLERLDNVASLNQLNLWTMDALEKNAIVHVCLKEMEHEMETCKESIRIFL
KDCGFQNTITIEIDADLETHQTHKRKVCDLERSYEHQHZ

(SEQ. ID. NO. 83)

MIEYKNVALRYTEKDVLRDVLNQIEDGEFMYLVGPGSGKTTMLKMINRLEPTDGNIMYMDGKRIKDYDERELRLSTGYVLQAI
LFPNLTVAENIALIPEMKGWSKEEITKKTEELLAQVGLPVAEYGHRLPSELGGEQQRVGIVRAMIGQPKIFLMDPEFSALDAISRK
LQVLTKELHKEFGMTTIFVTHDTEALKLADRIAQLDGEIRQVANPETILKAPATDFVADLFGGSVHDZ

(SEQ. ID. NO. 84)

MSAVAISAMTKVMQETHGNPSSIHGHGRQAGKLLREARQELAQLLRTKPKHIFTSGGTEGNNTTIIGYCLRHQEQGKHIITTAIEH
HAVLETIDYLVQHFGFEATHIQPENQEITAQQIQKALRDDTILVSTMFVNNETGNLLPIAEIGQILKQHPAAHYVDAVQAIGKIPHSE
ELGIDFLTASAHKFHGPKGIGFLYASSMDFDSYLHGGDQEQKKRAGTENLPAIVGMVAALKEDLEKQEEHFQHVQNLET AFLAEL
EQIYYLNRGKHHLPYVLNIGFPGQKNDLLLRDLAGISISGSACTAGVVQSSHVLEAMYGANSERLKESSLRISLPQNTVEDLQ
TLAKTLKEIIGGZ

(SEQ. ID. NO. 85)

MLFKLSKEKIELGSLRSLPARRIFLSFALVILLGSLLLSLPFVQVESSRATYFDHLFTAVSAVCVTGLSTLPVAHTYNIWGGIICLLLIQ
IGGLGLMTFIGVFIYQSKQKLSLRSRATIQDSFSYGETRSLRKVFYSIFLTTFLVESLGAILLSFRILPQLGWGRGLFSSIFLAISAFCA
GFDNLGSTSLFAFQTDLLVNLVIAGLIITGGGLGMVWFDLAGHVGRKKKGRLHFHTKLVLVLLTIGLLLFGTATTFLFLEWNNAGTIG
NLPVADKVLVSFFQVTVMRTAGFSTIDYTQAHPTLLIYILQMFLGGAPGGTAGGLKITTFFVLLVFARSELLGLPHANVARRTIAP
RTVQKSFVSFIIFLMSFLIGLILLGITAKGNPPFIHLVFETISALSTVGVTANLTPDLGKLALSVIMPLMFMGRIGPLTLFVSLADYHPE
KKDMIHYMKADISIGZ

(SEQ. ID. NO. 86)

MSDRITIGILGLGIFGSSVLAALAKQDMNIIAIDHAERINQFEPVLARGVIGDITDEELLRSAGIDTCDTVVATGENLESSVLA VMH
CKSLGVPTVIAKVKSQTAKKVLEKIGADSVISPEYEMGQSLAQTLFHNSSVDVFQLDKNVSVIVEMKIPQSWAGQSLSKDLRGKYN
LNLGFRREQENSPLDVEFGPDDLLKADTYILA VINNQYLDTLVALNSZ

(SEQ. ID. NO. 87)

MKLLSIAISSYNAAYLHYCVESLVIGGEQVVGILINDGSQDQTQIEAECLASKYPNIVRAIYQENKCHGGA VNRGLVEASGRYFKV
VDSDDWVDPRA YLKILETLQELESKGQEVDFVTNFVYEKQSRKKSMSYDSVLPVRQIFGWDQVGNFSKQGYTMMHSLIYRT
DLLRASQFZ

(SEQ. ID. NO. 88)

MKFNPNQRYTRWSIRRLSVGVASVVVASGFFVLVGQPSSVRADGLNPTPGQVLPEETSGTKEGDLSEKPGDVTLTQAKPEGVTGN
TNSLPTPTERTVSEETSPSSLDTLFEKDEEAQKNPELTDVLKETVDTADVDGTQASPAETTPQVKGKVKENTKDSIDVPAAYLEK
AEGKGPFAGVNVQVPIYELFAGDGMLTRLLLKASDNAPWSDNGTAKNPALPPEGLTKGKYFYEVLDNGNTVKGQKQALIDQLR
ANGTQTYKATVKVYGNKDGKADLTNLVATKNVDININGLVAKETVQKAVADNVKDSIDVPAAYLEKAKGEGPFTAGVNVHPIY
ELFAGDGMLTRLLLKASDKAPWSDNGDAKNPALSPLGENVKTGQYFYQVALDGNVAGKEKQALIDQFRANGTQTYSATVNVY
GNKDGKPDLDNIVATKVTININGLISKETVQKAVADNVKDSIDVPAAYLEKAKGEGPFTAGVNVHPIYELFAGDGMLTRLLLK
SDKAPWSDNGDAKNPALSPLGENVKTGQYFYQVALDGNVAGKEKQALIDQFRANGTQTYSATVNVYGNKDGKPDLDNIVATK
KVTININGLISKETVQKAVADNVKTVSMFQQPTZ

(SEQ. ID. NO. 89)

MKLKSYILVGYIISTLLTILVVFVAVQKMLIAKGEIYFLLGMTIVASLVGAGISLFLLLPVFTSLGKLKEHAKRVA AKDFPSNLEVQ
PVEFQQLGQTFNEMSHDLQVSFDSLEESEREKGLMIAQLSHDIKTPITSIQATVEGILDGIIKESEQAHYLATIGRQTERLNKLVEELN
FLTLNARNQVETTSKDSIFLDKLLIECMSEFQFLIEQERRDVHLQVIPESARIEGDYAKLSRILVNLVDNAFKYSAPGKLEVVAKL
EKDQLSISVTDEQGQIAPEDLENIFKRLYRVETSRNMKTGGHGLGLAIAARELAHQLGGEITVSSQYGLGSTFTLVNLSGSENKAZ

(SEQ. ID. NO. 90)

MFGQTAQHGLTNSLKDWFIFLLNIGPQLAFFCQMLRCSRVEQGTGNHRRREFNMIQQIFSHFGMTHLGQIKLVYQESIDLELLVNA
LNHLLIDRLVLTNPNTITIEDRQIVHGLDLLKGRKDEKIIDIKSMFRQLELASTQQICPINQRVHHGILAFGEISDLVPAKNLPNRQDZ

(SEQ. ID. NO. 91)

MEHLATYFSTYGGAFFAALGIVLAVGLSGMGSAYGVGKAGQSAAALLKEQPEKFASALILQLLPGTQGLYGFVIGILIWLQLTPEL
PLEKGVAYFFVALPIAIVGYFSAKHQGNVA VAGMQILAKRPKEFMKGAILAAMVETYAILAFVVSFILTLRVZ

(SEQ. ID. NO. 92)

MLKSEKQSRYQMLNEELSFLLEGETNVLANLSNASALIKSRFPNTVFAGFYLFDGKELVLGPFQGGVSCIRIALGKGVCGEAAHFQ
ETVIVGDVTTYLNYISCDSLAKSEIVVPMKNGQLLGVLDLDSSEIEDYDAMDRDYLEQFVAILLEKTAWDFTMFEEKSZ

(SEQ. ID. NO. 93)

MSVLEIKDLHVEIEGKEILKGVNLTCLKTEIAAIMGPNGTGKSTLSAAIMGNPNYEVTKEVLFQDGVNILELEVDERARMGLFLAM
QYPSEIPGITNAEFLRAAMNAGKEDDEKISVREFITKLDEKMELLMKEEMAERYLNEGFSGGEKKRNEILQLLMLEPTFALLDEID
SGLDIDALKVSVKGVNAMRGEFGAMIITHYQRLNLYITPDVVHVMMEGRVVLSSGGPELAARLEREGYAKLAEELGYDYKEELZ

(SEQ. ID. NO. 94)

MPYKRQRSFSMALSKLDSLYMAVVADHSKNPHHQKLEDAEQISLNNPTCGDVINLSVKFDAEDRLEDIAFLNSGCTISTASASM
MTDAVLGKTKQEILELATIFSEMVCQKQDERQDQLGDAAFLSGVAKFQRIKCATLAWNALKKTIENTQEKQZ

(SEQ. ID. NO. 95)

MKIQDLRLKDVMLLDLQATEKTAVIDEMIKNLTDHGYVTDFTFKEGILAREALTSTGLGDGIAMPHSKNAAVKEATVLFASKNK
GVDYESLDGQATDLFFMIAAPEGANDTHLAALAELSQYLMKDGFAKLRQATSADQVIELFDQASEKTEELVQAPANDSGDFIVA
VTACTTGIAHTYMAQEALQKVAEMGVGIKVTETNGASGVGNQLTAEDIRKAKAIIIAADKAVEMDRFDGKPLINRPVADGIRKTE
ELINLALSGDTEVYRAANGAKAATASNEKQSLGGALYKHLMSGVSQMLPFVIGGGIMIALAFLIDGALGVNENLGNLGSYHELA
SMFMKIGGAAGFLMLPVFAGYVAYSIAEKPLVAGFVAGAIAGEGFAFGKIPYAAGGEATSTLAGVSSGFLGALVGGFIAGALVL
AIKKYVKVPRSEGAKSILLPLLTGTILTFVMLAVNIPMAAINTAMNDFLGGGLGGGSAVLLGIVLGGMMAVDMGGPVNKAAYV
FGTGLAATVSSGGSVAMAAVMAGGMVPLAIFVATLLFKDKFTKEERNSGLTNIMGLSFITEGAIPFGAADPARAIPSFILGSAVA
GGLVGLTGIKLMAHPGGIFVIALTSNALLYLVSVLVGAIVSGVVYGYLRKPQAZ

(SEQ. ID. NO. 96)

MANKNTSTTRRRPSKAELERKEAIQRMISLGIAILLIFAFAFKLGAAGITLYNLIRLLVGSLAYLAIFGLLIYLIFFFKWIRKQEGLLSGF
FTIFAGLLIFEAYLVWYKGLDKSVLKGTMQVVTDLTGFRFTTSFAGGGGLIGVALYIPTAFLFSNIGTYFIGSILVGSLLVSPWSVY
DIAEFFSRGFAKWEGHERRKEERFVKQEEKARQKAKEARLEQEETEKALLDLPPVDMETGEILTEEAVQNLPIPEEKWVEPEII
LPQAEKFPQEDDDDDQVDFSAKEALEYKPLSLQLFAPDKPKDQSKKEKKIVRENIKILEATFASFGIKVTVERAIEIGPSVTKEYE
VKPAVGVRVNRISNLSDDLALALAAKDVRIEAPIPGKSLIGIEVPNSDIATVSFRELWEQSQTAKENFLEIPLGKAVNGTARAFDLSK
MPHLLVAGSTGSGKSVAVNGIIASILMKARPQVKFMMVDPKMWELSVYNDIPHLLIPVVTNPRKASKALQKVVDENRNYELFA
KVGVRNIAGFNAKVVEEFNSQSEYKQIPLPFIVVIVDELADLMMVASKEVEDAIIRLGQKARAAGIHMILATQRPVSDVISGLIKANV
PSRVAFVSSGTDSTRTILDENGAEKLLGRGDMLFKPIDENHPVRLQGSFISDDDDVERIVNFIKTQADADYDESFDPGVESENEGEFS
DGDAGGDPLFEEAKSLVIETQKASASMIQRRLSVGFNRATRLMEELEIAGVIGPAEGTKPRKVLQZZ

(SEQ. ID. NO. 97)

MSYFKKYKFDKSQFKLGMRTFTGTIAVFLVLLIFGFFGWKGLQIGALTAVFSLRSEFDESVMHFGTSRILGNSIGGLYALVFFLLNTFF
HEAFWVTLVVPICTMLTIMTNVAMNNKAGVIGGVAAMLITLSPSETILYVFRVLETFMGVFVAIIVNYDIDIRLFLFLEKKEKZ

(SEQ. ID. NO. 98)

MNKSEHRHQLIRALITKNKIHTQAEQLALLAENDIQVTQATLSRDIKNMNLKSVREEDSAYVVLNNGSISKWEKRLELYMEDALV
WMRPVQHQVLLKTLPLGLAQSFSGSIIDTSLFPDAIATLCGNDVCLICEDADTAQKCFEELKKFAPPPFFEEZ

(SEQ. ID. NO. 99)

MKSIKLNALSYMGIRVLNIIPIITGTYYARVLDRTDYGYFNSVDITLSFFLPFATYGVYNYGLRAISNVKDNKKDLNRTFSSLFYLC
IACTILTTAVYILAYPLFFTDNPIVKVYLVGMGIQLIAQIFSIEWVNEALENYSFLFYKTAIRILMLVSIFLKVNEHDIVVYTLVMSL
STLINYLISYFWIKRDIKLVKIHLSDFKPLFLPTAMLVFANANMLFTFLDRFLVKTGIDVNVSYTTIAQRIVTVIAGVVTGAIGVS
PRLSYLGGKGDKEAYVSLVNRGSRIFNFFIPLSFGMLVLPNAILLYGSEKYIGGGITSLFAFRITIALDITLGSQILFTNGYEKRIT
VYTVFAGLLNLGLNSLLFFNHIVAPEYLLTTMLSETSLVFIIFHRRKQLIHLGHIFSITVRYSLFSLSFVAIYFLINFPVDMVIN
LPFLINTGLIVLLSAISYISLLVFTKDSIFYEFLNHVLALKNKFKKSZ

(SEQ. ID. NO. 100)

MELFMKITNYEIKLKKSGLTNQKILKLVLEYGENVDQELLGDIADISGCRNPVFMERYFQIDDAHLSKEFQKFPFSILDDCYPW
DLSEIYDAPVLLFYKGNLDDLKPKVAVVGSRACSKQGAKSVEKVIQGLLENELVIVSGLAKGIDTAAHMAALQNGGKTIAVIGTGL
DVFPKANKRLQDYIGNDHLVLSEYGPGEQPLKFHFPARNRIIAGLCRGVIVAEAKMRSGSLITCERAMEEGRDVFAIPGSILDGLS
DGCHHLIQEGAKLVTSGQDVLAEEFZ

(SEQ. ID. NO. 101)

MKQLTVEDAKQIELEIDYIDTLCKKHNNYIINYGTLLIGAVRHEGFIPWDDDDIDLSMPREDYQRFINIFQKEKSKYKLLSLETDKNY
FNNFIKITDSTTKIIDTRNTKTYESGIFIDIFIDRFDPPKVIDTCYKLESFKLLSFSKHNIVYKDSLLKDWIRTAFWLLRPVSPRYFA
NKIEKIQKYSRENGQYMAFIPSKFKEKEVFPSGTFDKTIDLPFENLSLPAPEKFDITLTQFYGDYMTLPPEEKRFYSHEFHAYKLED
Z

(SEQ. ID. NO. 102)

MIKINHLTITQNKDLRLVSDLTMTIQDGEKVAIIEEGNGKSTLLKILMGEALSDFTIKGNIQSDYQSLAYIPQKVPEDLKKKTLHD
YFFLDSDLDYSILYRLAEELHFDNSRFASDQEIGNLSGGEALKIQLIHELAKPFEILFLDEPSNDLDLETVDWLKGGQIKTRQTVIFIS
HDEDFLSETADTIVHLRLVKHKEAETLVEHLDYDSYSEQRKANFAKQSQQAANNQRAYDKTMEKHRRVKQNVETALRATKDS
TAGRLAKMKMTVLSQEKRYEKAQSMQKPLEEEQIQLFFSDIQLPASKVLVQLEKENLSIDDRVLVQKLQTLTVRGQEKIGIIGP
NGVGKSTLLAKLQRLNLDKREISLGFMQDYHKKLQDLSPAIYLSKTGEKEELQKIQSHLASLNFSPYEMQHQRSLSGGQGGKL
LLDLVLKPNFLLDDEPTRNFSPTSQPQIRKLFATYPGGLITVSHDRFLKEVCSIIYRMTEHGLKLVNLEDLZ

(SEQ. ID. NO. 103)

MKPKTFYNLLAEQNLPLSDQKQEQERYFELLVEWNEKINLTAITDKEEVYKHFYDSIAPILQGLIPNETIKLLDIGAGGFPSLPM
KILYPELDVTIISLKNRINFLQLLAQELDLNGVHFYHGRAEDFAQDKNFRAQYDFVTARAVARMQVLSLTIPYLVGGKLLALK
ASNAPELLEAKNALNLLFSKVEDNLSYALPNRDPRIYTVVEKKKETPNKYPRKAGMPNKRPLZ

(SEQ. ID. NO. 104)

MSIKLIAVDIDGTLVNSQKEITPEVFSIQDAKEAGVKVVIATGRPIAGVAKLLDDLQLRDEGDYVVTFNAGLVQETATGHEIISL
TYEDYLDMEFLSRKLGVMHMAITKDGITYANRNIGKYTVHESTLVSMPIFYRTPEEMAGKEIVKCMFIDEPEILDAAIEKIPAEFYER

YSINKSAPFYLELLKKNVDKGSATHLAELKGLTKDETMAIGDEENDRAMLEVVGPNVVMENGNEPKIKIAYITKTNDSESGVAH
AIRTWVLZ

(SEQ. ID. NO. 105)

MTWILGVIALIVFVIVSYNGLVKNRMQTKEAWSQIDVQLKRRNDLLPNLIETVKGAKYEGSTLEKVAELRNQVAAATSPAEM
KASDALTRQVSGIFAVAESYPDLKASANFVKLQEELTNENKISYSRQLYNSVSNYNVKTETFPNIIAGMFGFKAADFLQTPEEE
KSPVKVDFSGLDZ

(SEQ. ID. NO. 106)

MLFDQIASNKRKTWILLVFFLLALVGYAVGYLFIRSGLGGLVIALIIGFIYALSMIFQSTEIVMSMNGAREVDEQTPDLYHVVE
DMALVAQIPMPRVFIIDDPALNAFATGSNPQNAAVAATSGLLAIMNREELEAVMGHEVSHIRNYDIRISTIAVALASAITMLSSMAG
RMMWWGGAGRRRSDDDRDGNLEIIMLVSLAIVLAPLAATLVQLAISRQREFLADASSVELTRNPQGMINALDKLDNSKPM
RHVDDASSALYINDPKKGGGFQKLFYTHPPISERIERLKQMZ

(SEQ. ID. NO. 107)

MKLNIEIRKQSEGLNFEQTLDDLVDLARNQEILDVKDILAVGKVQYEDRMFLDYQLSYTIVLASSRSMPELVESYPVTEV
MEGATNQLDQEVLDLDDLVLPENGELDLAESVSDNILLNIPIKVLTAEEAGQGFGISGNDWQIMTEEYQAQKAVKKEENSPFAGL
QGLFDGDEZ

(SEQ. ID. NO. 108)

MKRQALVVFSGGQDSTTCLFWVMQHYETVEAVTFAYGQRHHLEIQITREIAKEQGIRHHILDMSLGQITAQPDFATIHISYIPDK
LCVESKSLKLYFSYRNHGDFFHENCINTIGKDLVNLLDPRYLEVWGKFTPRGGISIDPYNYGKQGTKEYGLAEQRLFQHDLYPEK
IDNRZ

(SEQ. ID. NO. 109)

MTETVEDKVSHTGLDILKGIVAAGAVISGTVATQTKVFTNESAVLEKTVEKTDALATNDTVVLGTISTSNSASSTSLSASESASTS
ASESASTSASTSASESASTSASTSISASSTVGSQTAAATEATAKKVEEDRKKPASDYVASVTNVNLQSYAKRRKRSVDSIEQ
LLASIKNAAVFSGNTIVNGAPAINASLNIAKSETKVYTGEVDSVYRVPYIKLVKTNDGSKLTFTYTVTVYVNPKTNDLGNISSMRP
GYSIYNSGTSTQMTLTLGSDLGKPSGVKNYITDKNGRQVLSTNTMTTQSGGYTWGNGAQMNNGFAKKGYGLTSSWTVPITGT
DTSFTFTPYAARTDRIGINYFNGGGKVVESSTTSQSLSQSKLSVSASQASASASTSASASASTSASASASTSASASASTSASASASTS
SASASASTSASASASTSASESASTSASASASTSASASASTSASASASTSASESASTSASASASTSASESASTSASASASTSASASASTS
SGSASTSTSASASTSASASASTSASASASISASESASTSASESASTSTSASASTSASESASTSASASASTSASASASTSASASASTS
TSASESASTSASASASTSASASASTSASASASTSASASASTSASVSASTSASASASTSASASASTSASESASTSASASASTSASASASTS
ASASASTSASESASTSASASASTSASESASTSASASASTSASASASTSASGSASTSTSASASTSASASASTSASASASISASESASTSASE
SASTSTSASASTSASASASTSASASASTSASASASTSASASQVRRPQPVHLNRHQPVRRPQQVVLVHQLQHQRVHRLQHQPVRPRL
QRQPVRQLQQVVPVLSQHQQVLPQHRQVPRQLQQAHLNQRQAPQLQQVVPVRQPQRQVRQPQQVVLVHQLQHQRVHRLRR
QPVHQSQQVVPVRQLPHQQVPRQLQAPVRRQLQQVLPAPQPQPVRQPQQVSRQLNRHQVRPLQQVLPAPQPQRQQVHRLQRQRV
RLNRHQVRPLQQVLPAPQPQRQQVHRLQHQRVRPLQQVLPAPQPQRQQVHRLQRQRVRLSQHQRVRQPQQAHLNQLHQPVRQP
QHRQAPQLQQVVPVRQPQRQVRRLQQVVPVRQPQQVVPVRQPQRQVRPQVHLNRHQPVRRPQQVVLVHQLQHQRVHRLQHQPVR
HQSQQVVPVRQFRINKCLGFSKYZ

(SEQ. ID. NO. 110)

MGVETWIFYSSICWLAIGLSVWKFPMYMTAANGGGGFLIFLISTILIGFPLLLAEFALGRSAGVSAIKTFGKLGKNNKYNFIGWIGA
FALFILLSFYFVIGGWILVYLGIEFGKLFQLGGTG DY AQLFTSIIISNPAIALGAQAIFILLNIFIVSRGVQKGIERASKVMMPLLFIVFV
FIGRSLSLPNAMEGVLYFLKPDFSKLTSTGLLYALGQSFFALSLGVTVMILTYASYLDKKTNLVQSGISIVAMNISISIMAGLAIFQAR
SPFNIQSEGGPSLLFIVLPQLFDKMPFGTIFYVLFLLFLFATVTFSSVMLEINVDNITNQDNSKRAKWSVILGILTFVFGIPSALS YGV
MADVHIFGKTFDFAMDVLVSNLLMPFGALYLSLFTGYIFKKALAMEELHLDERAWKQGLFQVWLFLLRFFVSSSQSSSLWSSLPNL
CNQKGLEZ

(SEQ. ID. NO. 111)

MLKKWQLKDVILLAFLSIFFGGVFGSGYVYNILSLLTPLGLQAFANEILFGLWCMAAPIAAIFVPRVGSATIGEVLAAAEVLYG
SQFGLGALLSGFVQGLGSEFGFIVTKNRYESWLSLTANSIGITLVSFVY EYIKLGYAFSLPFVLSLLVVRFSISVYFFCTILVRAIVKL
YHQFATGGKAZ

(SEQ. ID. NO. 112)

MVKVATQTPHISLFLLSLETSPISIALTSLVVAFCILFMYLRYRRFKMLAWMIILAILPSFANYWAVQLHGDASQAVMLGTRAFVT
VCIGLVFVSSVSLKELLLYLAQKGLSRWSYALIVVFN SFPLIQEIKSLKEACLLRGQELHFWSPLIYSKVLMTVFRWRHLYLRAL
SAHG YDEHAQLKNSYRTFYIPKTKLIYLLFFLLQTSLSFLZ

(SEQ. ID. NO. 113)

MRKHQLQVHKLTLISMIALDVVLTPIFRIEGMAPMSSVVNLAGIMMGVYALAMATVTA FIRM T T QGIPPLALTGATFGALLAG
LFYKYGRKFHYSALGEILGTGIISIVSYVPMVLTGSAAKLSWFIYTPRFFGATLIGTAISFIAFRFLIKQEFFFKKVQGYFFSERIDZ

(SEQ. ID. NO. 114)

MQEFTNPFPIGSSSLIHCITNEISCEMLANGILALGCKPVMADDSREVLDFTKQSQUALFINLGHLSAEKEKAIRMAASYANQSSSLPMV
VDAGVTTSSIRKSLVKDLLDYRPTVLKGNMSEIRSLVGLKHHGVGVDAKQDQETEDLLQVLKDWQCQTYPGMSFLVTGPKDLV
VSKNQVAVLGNCTELDWITGTGDLVGALTAVFLSQGKTGFEASCLAVSYLNIAAEKIVVQGMGLEEFYQVVLNQLSLLRRDEN
WLDTIKGEVYEZ

(SEQ. ID. NO. 115)

MNHKIAILSDVHGNATALEAVIADAKNQGASEYWLLGDIFLPGPGANDLVALLKDLPTASVRGNWDDR VLEALDGQYGLEDPO
EVQLLRMTQYLMERMDPATIVWLRSLPLLEKKEIDGLRFSISHNLPDKNYGGDLLVENDTEKFDQLLDAETDVA VYGHVHKQLL
RYGSQQQIINPGSIGMPYFNWEALKNHRSQYAVIEVEDGELLNIQFRKVA YDYEALEELAKSKGLPFIEMYELRRDDNYQGHNL
ELLASLIEKHGYVEDVKNFFDFLZ

(SEQ. ID. NO. 116)

MNVNQIVRIIPTLKANNRKLNETFYIETLGMKALLEESAFLSLGDOTGLEKLVEEAPSMRTRKVEGRKKLARLIVKVENPLEIEGIL
SKTDSIHRLYKQGNGYAFEIFSPEDDLILHAEDDIASLVEVGEKPEFQTDLASISLSKFEISMELHLPTDIESFLESSEIGASLDFIPAQG
QDLTVNDNTVTDLSMLKFLVNELDIASLRQKFESTEIFPKSEKFFLGKDRNNVELWFEVZ

(SEQ. ID. NO. 117)

MKWTIKIIEEIEAGIYPGASFAYFKDNQWTEFYLGQSDPEHGLQTEAGLVYDLASVSKVVGVTCTFLWEIGQLDIDRLVID
FLPESDYPDITIRQLLTHATDLPFIPNRDILLTAPELKEAMFHLNRRSQPAFLYSDVHFLLLGFLERIFNQDLVDILKDQVWKPWGM
TETKFGPVELAVPTVRGVEAGIVHDPKARLLGRHAGSAGLFSTIKDLQIFLEHYLADDFARDLNNQFSLDDKERSLAWNLEGDW
LDHTGYTGTFIMWNRQKQEAIFLSNRTYEKDERAQWILDRNQVMNLIRKEEZ

(SEQ. ID. NO. 118)

MMKKTYNHILVWGVIFYSICIVCFCTPQEQTSTVGVTGPIQHLGRLVFLLPFNSLWKLGEVSDIGQLCWIFLQNILNVFLFFLIFQ
LLYLPNLRKTKKVLFSFLVSLGIECTQLILDFFFDFNRVFEIDDLWTNTLGGYLAWLLYKRLHKNKVRNZ

(SEQ. ID. NO. 119)

MKIPLLTFARHKFVYVLLTLLFLALVYRDVLMTYFFFDIHAPDLAKFDGQAIKNDLLKSALDFRILQFNLGFYQSFIPIIIVLLGFQYI
ELKNKVLRLSIGREVSQGLKRLTLQVASIPCLILVTVLIIAITYFFGTSPPLGWSLSDGSGLRLLDGEIKSYLFFTCVLLIGIF
INAIYFLQIVDYVGNVTRSAITYLMLFLWLGSMMLYSALPYMVPMTSLMQASYGDVSLMKLFTPYILYIVPYMVLEKYEDNVZ

(SEQ. ID. NO. 120)

MFKVLQKVKGAFMLPIAILPAAGLLLGIGGALSNTPTTIATYPILDNSIFQSIFQVMSSAGEVVSFNSLSSLLCVGLCIGLAKRDKGTAA
LAGVTGYLVMTATIKALVKLFMAEGSAIDTGVIGALVVGIVAVYLHNRYNNIQLPSALGFFGSGSRFVPIVTSFSSILIGFVFFVIWPPF
QQLLVSTGGYISQAGPIGTFLYGLMRSLGAVGLHHIYPMFWYTELGGVETVAGQTVVGAQKIFFAQLADLAHSGLFTGTRFFA
GRFSTMMFGLPAACLAMYSVPKNRRKKYAGLFFGVALTSTFITEPIEFMFLVSPVLYVVAFLDGVVSFFIADVLNISIGNTFSG
GVIDFTLFGILQGNAKTNWVLQIPFGLIWSVLYYIIFRWFTTQFNVLTPGRGEEVDSKEISESADSTSNTADYKQDSLQIIRALGGSN
NIEDVDACVTRLRVAVKEVNQVDKALLKQIGAVDVLEVKGQIAYGAKAILYKNSINEILGVDDZ

(SEQ. ID. NO. 121)

MKFRKLACTVLAGAAVLGLAACGNSGGSKDAAKSGGDGAKEITWWAFPVFTQEKTDGSGVGTYEKSIIEAFEKANPDIKVKLETI
DFKSGPEKITTAIEAGTAPDVLFDAPGRIIYQYKNGKLAELNDLFTDEFVKDVNNENIVQASKAGDKAYMYPISAPFYMAMNKK
MLEDAGVANLVKEGWTTDDFEKVLKALKDKGYTPGSLFSSGQGGDQGTAFISNLYSGSVTDEKVSKEYTTDDPKFVKGLEKATS
WIKDNLINNGSQFDGGADIQNFANGQTSYITLWAPAQNGIQAKLLEASKVEVVEVPFSPDEGKPALEYLVNGFAVFNNKDDKKVA
ASKKFIQFIADDEKVGPKDVVRTGAFPVRTSFGKLYEDKRMETISGWTQYYSPTYNTIDGFAEMRTLWFPMLQSVSNGDEKPADA
LKAFTKANETIKKAMKQZ

(SEQ. ID. NO. 122)

MQSTKKPLTAFTVISTIILLTTLVLFIFPFYWILTGAFKSQPDITVIPPQWFPKMPTMENFQQLMVQNPALQWMWNSVFISLVTMFL
VCATSSLAGYVLAKKRFYQORILFAIFIAAMALPKQVVLVPLVRIVNFMGIHDTLWAVILPLIGWPFVFLMKQFSENIPTELLESA
KIDGCGEIRTFWSVAFPIVKPGFAALAIPTINTWNYFMYQLVMLTSRNNLTISLGVATMQAEMATNYGLIMAGAAALAAVPIVTVF
LVFQKSFTQGITMGAVKGZ

(SEQ. ID. NO. 123)

MKIMFKNFNILLNRKIVLLLRIVLMMILINHLLSTAVQKQDAVIFFKRELISIFSNDYSEANLEIPKLLLNLSLFMVGWLSVILLES
DLADHYHHLIRYQSSSFFDYTRKRLVVISKFFQDLFWFLGLLPLGIHFKTVALFFLLAQLMMLYLLLSYLIALISAGAGSFFLYF
LAFVQGQEWMDHIVTVYLVLLSLLVMLIVSRLEEFKKGZ

(SEQ. ID. NO. 124)

MGKGEMGKGVIGLEFDSVLVNKAPTQLANGKTATFLTQYDSKTLTFAVDKEDIGQEIIAGKGSIESMHNLPVNLGARVPGGV
NGSKAAVHEVPEFTGGVNGTEPAVHEIAEYKGSDSLVTLTTKKDYTYKAPLAQQALPETGNKESDLLASLGLTAFFLGLFTLGKK
REQZ

(SEQ. ID. NO. 125)

MKKTFFLLVLGLFCLLPLSVFAIDFKINSYQGDLYIHADNTAEFRQKIVYQFEEDFKGQIVGLGRAGKMPSGFDIDPHPKIAAKNG
AELADVTSEVTEEADGYTVRVYNPGQEGDIVEVDLVWNLKNLLFLYDDIAELNWQPLTDSSESIEKFEFHVVRGDKGAELFFHTG
KLFRGEGTIEKSNLDYTIRLDNLPKRGVELHAYWPRTDASARDQGLKGNRLEEFNKIEDSIVREKDQSKQLVTWVLPISILSLLLS
VCFYFIYRRKTTSPVKYAKNHRLYEPPMELEPMVLSEAVYSTSLEEVSPLVKGAGKFTFDQLIQATLLDVIDRGNVSIIEGDAVGL
RLVKEDGLSSFEKDCNLAFSGKKEETLSNLFADYKVSDSLRYRAKVSDEKRIQARGLQLKSSFEVNLQMQEGVVRKRVSWGLP
DYRPLTGGEKALQVGMGALTILPLFIGFLFLYSLDVHGYLYLPLPILGFLGLVLSVFYWKLRDLNRDGVLEAGAEVYYLWT
SFENMLREIARLDQAELESIVVWNRLLVYATLFGYADKVSHLMKVHQIQVENPDINLYVAYGWHSTFYHSTAQMASHYASVANTA
STYSVSSGSGSSGGGFGSGGGGSGSIFAFZ

(SEQ. ID. NO. 126)

MKKVRKIFQKAVAGLCCISQLTAFSSIVALAETPETSIPAIGKVVIKETGEGGALLGDAVFELKNNTDGTTSQRTEAQTGEAIFSNIK
PGTYTLTEAQPVPVGYKPSSTKQWTVVEKNGRTTVQGEQVENREEALSDQYPQTGTYPDVQTPYQIIKVDGSEKNGQHKAALNPY
ERVIPEGTLISKRIYQVNNLDDNQYGIELTVSGKTVYEQDKDSVPLDVILLDNSMSNSNIRNKNARRAERAGEATRSIDKITSDE
NRVALVYASTIFDGTFTVEKGVADKNGKRLNDSLFWNYDQTSFTNTKDYSYLKLTNDKNDIVELKNKVPTAEHDHGNRLM
YQFGATFTQKALMKADEILTQARQNSQKVIFHITDGVPTMSYPINFNHAATFAPSQYNQLNAFFSKSPNKDGILLSDFITQATSGEH
TIVRGDQSYQMFTDKTVYEKGAPAAFPVKPEKYSEMKAAGYAVIGDPINGGYIWLNWRESILAYPFNSNTAKITNHGDPTRWYY
NGNIAPDGYDVFTVVGINGDPGTDEATATSMQSISSKPENYTNVTDTTKILEQLNRYFHTIVTEKKSIENTITDPMGELIDLQGT
DGRFDPADYTLTANDGSRLENGQAVGGPQNDGGLLKNKVLVYDTTEKIRIRTGLYLGTDKVTLYNVRLNDEFVSNKFDYDNG
RTLHPKEVEQNTVRDFPIPKIRDVRYKYPEITISKEKLGDIIEFIKVNKNKKPLRGAVFSLQKQHPDYPDIYGAIQNGTYQNVRT
GEDGKLTFFKNLSDGKYRLFENSEPAGYKPVQNKPIVAFQIVNGEVRDVTISVPQDIPAGYEFTNDKHYITNEPIPPKREYPRTGIG
MLPFYLIGCMMMGGVLLYTRKHPZ

(SEQ. ID. NO. 127)

MKSINKFLTMLAALLLTASSLFSAA TVFAAGTTTTSVTVHKLLATDGDMDKIANELETGNYAGNKVGVLPANAKEIAGVMFVWT
NTNNEIIDENGQTLGVNIDPQTFKLSGAMPATAMKKLTEAEGAKFNTANLPAAKYKIYIEHSLSTYVGEDGATLTGSKAVPIEIELP
LNDVVDADVYPKNTEAKPKIDKDFGKANPDTPRVDDKTPVNHQVGDVVEYIEVTKIPALANYATANWSDRMTEGLAFNKGTV
KVTVDVDALEAGDYALTEVATGFDLKLTDAGLAKVNDQNAEKTVKITYSATLNDKAIVEVPESNDVTFNYGNNPDHGNTPKPNK
PNENGDLTLTKTWVDATGAPIAGAEATFDLVNAQTGKVVTQVTLTTDKNTVTVNGLDKNTYKFFVERSIKGYSAADYQEITTAG
IAVKNWKDENPKPLDPTEPKVVITYGKKFVKVNDKDNRLAGAEFVIANADNAGQYLARKADKVSQEEKQLVVTTKDALDRAVA
AYNALTAQQQTQKEKEKVDKAQAAYNAAVIAANNAFEWVADKDNENVVKLVSDAQGRFEITGLLAGTYYLEETKQPAGYALL
TSRQKFEVTATSYSATGQGIEYTAGSGKDDATKVVNKKITPQTGGIGITIIFAVAGAAIMGIAVYAYVKNKDEQDLAZ

(SEQ. ID. NO. 128)

MTMQMKQKMISRIFFVMALCFSLVWGAHAVQAQEDHTLVQLQENYQEVVSQLPSRDGHRQLQVWKLDDSYSDDRVQIVRDLHS
WDENKLSSFKKTSFEMTFLENQIEVSHIPNGLYYVRSIIQTDVSYPAEFLFEMTDQTVPLVIVAKKTDMTTKVKLIKVDQDHNH
LEGVGFKLVSARDVSEKEVPLIGEYRYSSSGQVGRITLYTDKNGEIFVTNLPLGNYRFEVEPLAGYAVTTLDTDVQLVDHQLVTI
TVVNGKLPRGNVDPMKVDGRTNTSLQGAMFKVMKEESGHYTPVLQNGKEVVTSKGDRFRVEGLEGYTYLWELQAPTGYV
QLTSPVSFTIGKDRKELVTVVKNKRPRIIDVPTDGETLVYLDACCHVFWVZ

(SEQ. ID. NO. 129)

MSHIYLSIFTSLLMLGLVNVAQADEYLRIEMEAAYAPFNWTQDDDSNGAVKIDGTNQYANGYDVQIAKKIAKDLGKEPLVVK
KWEGLVPALTSGKIDMIIAGMSPTAERKQIEAFSSSYTSEPVLLVKKDSAYASAKSLDDFNGAKITSQQGVYLYNLIAQIPGAKKE
TAMGDFQMRQALEAGVIDAYVSRPEALTAEANSKFMIQVEPGFKTGEEDTAIAIGLRKNDNRISQINASIEISKDDQV
ALM
DRMIKEQPAEATTEETSSFFSQVAKILSENWQQLLRGAGITLLISIVGTIIGLIIGLAIGVFRTAPLSENKVIYGLQKLVGWVLNVYI
EIFRGTPIVQSMVIYGTAAQAFGINLDRTLAAIFIVSINTGAYMTIEIVRGILAVDKGQFEAATALGMTHNQTMRKIVLPQVVRNI
LPATGNEFVINIKDTSVLNVISVVELYFSGNTVATQTYQYFQTFTIIAVIYFVLTFTVTRILRFIERRMDMDTYTTGANQMOTEDLKZ

(SEQ. ID. NO. 130)

MTQAILEIKHLKKSYPQNEVLKDISLTVHKGEVISIIGSSSGSKSTFLRSINLLETPTDQILYHGNVLEKGYDLTQYREKLGVMVFQ
SFNLFENLVNLENTIVAQTTLVKRERTEAEKIAKENLEKVGMGERYWQAKPKQLSGGQKQVVAIARALSMNPDAILFDEPTSLD
PEMVGEVLKIMQDLAQEGLTMIVVTHEMEFARDVSHRVIFMDKGVIAEEGKPEDLFTNPKEKDRTEFLQRYLKZ

(SEQ. ID. NO. 131)

MKKYQLLFKISAVFSYLFVFSLSQLTLIVQNYWQFSSQIGNLFWIQNILSLLFIGVMIVVLVKTGHGYLFRIPRKKWLWYSILT
LVFQISFNVTAKHVNQSTAEGWAVLIGYSGTNFAELGIYIALFFLVPLMEELIYRGLLQHAFFKHSRFGDLLLPSILFALPHFSSLP
LLDIFVFATVGIIFAGLTRYTKSIYPSYAVHVINNIVATFPFLLTFLHRVLGZ

(SEQ. ID. NO. 132)

MNKKQWLGLGLVAVAAVGLAACGNRSSRNAASSSDVKTAAIVTDTGGVDDKSFNQSAWEGLQAWGKEHNLSKDNNGFTYFQS
TSEADYANNLQQAAGSYNLIFGVGFALNNAVKDAAKEHTDLNVLIDDVIKQKNVASVTFADNESGYLAGVAAAKTTKTQV
GFVGGIESEVISRFEAGFKAGVASVDPSIKVQVDYAGSFGDAAGKGTIAAAQYAAGADIVYQVAGGTGAGVFAEAKSLNESRPN
EKVWVIGVDRDQEAEGKYTSKDGKESNFVLVSTLKQVGTTVKDISNKAERGEFPGGQVIVYSLKDKGVDLAVTNLSEEGKKA
VE
DAKAKILDGSGVKVPEKZ

(SEQ. ID. NO. 133)

MSKKLQQISVPLISVFLGILLGAIVMWIFGYDAIWGYEELFYTAFGSLRGIGEIFRAMGPLVLIGLGFVAVSRAGFFNVGLPGQALAG
WILSGWFALSHPDMPRLMILATIVIALIAGGIVGAIPGILRAYLGTSEVIVTIMMNYIVLYVGNAFIHAFFPKDFMQSTDS
TIRVGAN
ATYQTPWLAELTGNSRMNIGIFFAIIA VAVIWFMLKKTTLGFEIRAVGLNPHASEYAGISAKRTIILSMIISGALAGLGGAVEGLGT
F
QNVYVQGSLSAIGFNGMAVSLAANSPIGILFAAFLFGVLQVGAGPMNAAQVPSSELVSIVTASIIFFVSVHYLIERFVKPKKQV
KGG
KZ

(SEQ. ID. NO. 134)

MGVKKKLKLTSLGLSLLIMTACATNGVTSIDITAESADFWSKLVYFFAEIIRFLSFDISIGVGIILFTVLIRTVLLPVFQVQMVASRKM
QEAQPRIKALREQYPRDMESRTKLEQEMRKVFKEGMGVRQSDSLWPILIQMPVILALFQALS RVDFLKTGHFLWINLGSVDTTLV
L
PILAAVFTFLSTWLSNKAISERNGATTAMMYGIPVLIFIAVYAPGGVALYWTVSNA YQVLQTYFLNNPFKIIAEREAVVQAQKDL
ENRKRKAKKKAQKTKZ

(SEQ. ID. NO. 135)

MVIDPFAINELDYLVSHFSDHIDPYTAAAILNNPKLEHVKFIGPYHCGRIWEGWGVPKERIIIVKPGDITIELKDMKIHAVESFDR
TCLVLPVNGADETGELAGLAVTDEEMAQKAVNYIFETPGGTIYHGADSHFSNYFAKHGKDFKIDV ALNNYGENPVGIQDKMT
SIDLLRMAENLR TKVIIPVHYDIWSNFMASSTNEILELWKMRKDR LQYDFHPFIWEVGGKYTPQDQHLVEYHHPRGFDDCFEQDS
NIQFKALLZ

(SEQ. ID. NO. 136)

MFLSGWLSSFANTYIHDLLGVLPDPSPLNFAFESAIAAPLVEEPLKLLSLVFVLALIPVRKLKSLFLLGIASGLGFQMIKD
IGYIRTDLP
EGDFDTISRILERIISGIASHWTFSGLA VVG VYLLYRAYKGQKVGKKQGLIFLGLALGTHFLFNSPFVELETPLAIPVVT
AIALYGF
YHAYCFVEKHNEMLTZ

(SEQ. ID. NO. 137)

MKVEPRCDVLSRMSHFIRILIMELQELVERSWAIRQAYHELEVKHHD SKWTV EEDLLALSNDIGNFQRLVMTKQGRYYDET
PYT
LEQKLSENIWWLLELSQRDLIDILTEMENFLSDKEKQLNVRTWKZ

(SEQ. ID. NO. 138)

MLDWKQFFLAYLRSRSLFIYLLSLAFLVLLFQFLFASLGIYFLYFFFLCCFVTILFFTWDILVETQVYRQELLYGEREAKSPLEIALA
EKLEAREMELYQQRSAERKLTDLDDYYTLWVHQIKTPIAASQLLVAEVVDRQLKQQLQEIEFKIDSYTNLVQLYLRLESFHDDL
V

LKQVQIEDLVKEIRKYALFFIQKGLNVNLHDLDEIVTDKKWLLVVIEQIISNSLKYTKEGGLEIYMDDQELCIKDTGIGIKNSDVL
RVFERGFSGYNGRLTQQSSGLGLYLSKKISEELGHQIRIESEVGKGTTVRIQFAQVNLVLEZ

(SEQ. ID. NO. 139)

MELNTHNAEILLSAANKSHYPQDELPEIALAGRSNVGKSSFINTMLNRKNLARTSGKPGKTQLLNFFNIDDKMRFVDVPGYGYAR
VSKKEREKWGCMIEEYLTRENLRVSVSLVDRHDPSADDVQMYEFLKYEIPVIVATKADKIPRGKWNKHESAIKKKLNFDPS
DDFILSSYSKAGMDEAWDAILEKLZ

(SEQ. ID. NO. 140)

MTKKQLHLVIVTGMGSGAKTVAIQSFEDLGYFTIDNMPPALLPKFLQLVEIKEDNPKLALVDMRSRSFFSEIQAVLDELENQDGL
DFKILFLDAADKELVARYKETRRSHPLAADGRILDGIKLERELLAPLKNMSQNVVDTELTPRELKTLAEQFSDEQAQSFRIEV
MSFGFKYGIPIDADLVFDRFLPNPYLPELRNQTGVDEPVYDYVMNHPESEDFYQHLLALIEPILPSYQKEGKSVLTIAMGCTGGQ
HRSVAFAKRLAQDLSKNWSVNEGHRDKDRRKETVNRSZ

(SEQ. ID. NO. 141)

MRKPKITVIGGGTGPVILKSLREKDVIEAIVTVADDGSSGELRKNMQQLTPPGDLRNVLVAMSDMPKFYEKVFQYRFSEDAG
AFAGHPLGNLIIAGLSEMQGSTYNAMQLLSKFFHTTGKIYPSSDHPDLTHAVFQDGTVEVAGESHIVDHRGIIDNVYVTNALNDDTPL
ASRRVVQTILESDMIVLGPGLFTSILPNIVIKEIGRALLETKAIEIAYVCNIMTQRGETEHFTSDHVEVLHRHLGRPFIDTVLVNIEK
VPQEYMNNSNRDEYLVQVEHDFVGLCKQVSRVISSNFLRLENGGAFFHDGDLIVDELMRI
IQVKKZ

(SEQ. ID. NO. 142)

MKNLIKLIIRLIVNLADSIFYIVALWHVSNNYSSSMFLGIFIAVNYLPDLLIFFGPVIDRVNPQKILIIISILVQLAVAVIFLLLLNQISF
WVIMSLVFISVMMASSISYVIEDVLIPQVVEYDKIVFANSLFSISYKVLDSIFNSFASFLQVAVGFILLVKIDIGIFLLALFILLLLKFRTSN
ANENFSFKYYKREVLQGTGKFIENKLLFKTSISLTINFFYSFQTVVPIFSIRYFDGPIFYGIFLTIAGLGGILGNMLAPIVIKYLKSN
QIVGVFLFLNGSSWLVAIVIKDYTLILFFVCFMSKGVFNIIFNSLYQQIPPHQLLGRVNTTIDSIIISFGMPIGSLVAGTLIDLNLIELVLI
AISIPYFLFSYIFYTDNGLKEFSIYZ

(SEQ. ID. NO. 143)

MMSNKNKEILIFAILYTVLFMFDGVKLLASLMPSAIANYLVYVVLALYGSFLFKDRLIQQWKEIRKTKRKFVFGVLTGWFLILMT
VVFEFVSEMCLKQFVGLDGCGLNQSNQSTFQEQPLLIIVFACVIGPLVEELFFRQVLLHYLQERLSGLLSIILVGLVFALTHMHSLAL
SEWIGAVGYLGGLAFSIIYVKEKENIYPLL VHMLSNSLSLIIAISIVKZ

(SEQ. ID. NO. 144)

LKKPIIEFKNVSKVFEDSNTKVLKDNFELEEGKFYTLGASGSGKSTILNIIAGLLDATTGDIMLDGVRINDIPTNKRDRVHTVFQSYA
LFPHMNVFENVAFPLRLRKIDKKEIEQRVAEVLKMVQLEGYEKRSIRKLSGGQRQVARIARAIINQPRVVLDEPLSALDLKLRD
MQYELRELQRLGITVFVTHDQEEALAMSDWIFVMNDGEIVQSGTPVDIYDEPINHFVATFIGESNILPGTMIEDYLVEFNGKRFE
AVDGGMKPNPEVEVIRPEDLRITLPEEGKLQVKVDTQLFRGVHYEIIAYDELGNEWMIHSTRKAIVGEEIGLDFEPEDIHIMRLNE
TEEEFDARIEEYVEIEEQAELINAIEEERDEENKLZ

(SEQ. ID. NO. 145)

MKSMRILFLLALIQLSSCFLWKECILSFKQSTAFFIGSMVFVSGICAGVNYLYTRKQEVHVSVLASKKSVKLFYSMLLLINLLGAVL
VLSDNLFIKNTLQQLVDFLLPSFFLFGDLLIFLPLKKYVRDFLAMLDRKKTVLVLTILATLLFLRNPMTIVSLIYIGLGLFFAAYL
VPNSVKKEVSFYGHIFRDLVLVIVTLIFFZ

(SEQ. ID. NO. 146)

MVKKIIGMVLALLSVTVVGVGVFAYTIYQQGTETLAKTYKKIGEETKVIEATEPLTILLMGVDTGNVERTETVWGRSDSMILMTV
NPKTKKTTMMSLERDILTRIESGNGQAHEAKLSAYADGGAELAIETIQKMMNIHIDRYVMVNMRLQLKLVDVAGGITVNNILGF
PISISDQEEFNTISIGVGEQHIGGEEALVYARMRYQDPEGDYGRQKRQREVIQKVMKALSLSNSIGHYQEILKALSDNMQTNIDLSA
KSIPNLLGYKDSFKTIETQQLQGEQILQGVSYQVSRAHMLEMQNLLRRSLGQEEVTQLETNAVLFEDLFRAPVGDEDNZ

(SEQ. ID. NO. 147)

MKKQAYVIIALTSFLVFFFSHLSLEILDFDWSIFLHDVEKTEKFVFLLVFSMSMTCLLALFWRGIEELSLRKMQANLKRLLAGQE
VVQVADPDLDASFSLSGKLNLLTEALQKAENQSLAQEEEEIEKERKRIARDLHDTVSQELFAAHMILSGISQQALKLDREKMQTQ
LQSVTAILETAQKDLRVLLHLRPVELEQKSLIEGIIILLKELEDKSDLRVSLKQNMTKLPKKIEEHIFRILQELISNTRHAQASCLD
VYLYQTDVELQLKVVDNGIGFQLGSLDDLSYGLRNIKERVEDMAGTVQLLTAPKQGLAVDIRIPLDKEZ

(SEQ. ID. NO. 148)

MIVSIISQGFVWAILGLGIFMTFRILNFPDMTTEGSFPLGGAVAVTLITKGVNPLATLVAVGAGCLAGMAAGLLYTKGKIPTLLSGI
LVMTSCHSIMLLIMGRANLGLLGTQKQIDVLPFSDNLNQLLTGLIFVSIVIALMLFFLDTKLGQAYIATGDNPDMAVSFGIHTGRME
LMGLVLSNGVIALAGALIAQEGYADVSRGIGVIVVGLASLIIGEVIFKSLSLAERLVTVVGSIAVQFLVWAVIALGFNTSYLRLYS
ALILAVCLMIPTFKQTIKGAKLKSKZ

(SEQ. ID. NO. 149)

MKKMKVWSTVLATGVALTTLAACSGSNSTTASSSEEKADKSQELVIYSNSVSNRGRDWLTAKAKEAGFNIKMVDIAGAQLADR
VIAEKNNVADMVFGIGAVDSNKIRDQKLLVQYKPKWLDKIDQSLSDKDNYYNPVIVQPLVLIGAPDVKEMPKDWTELGSKYKG
KYSISGLQGTTGRAILASILVRYLDDKGELGVSEKGWEVAKYELKNAYTLQKGESSIVKMLDKEDPIQYGMWWSGALVGQKEQ
NVVFKVMTPEIGVPFVTEQTMVLSTSKKQALAKEFIDWFGQSEIQVEYSKNFGSIPANKDALKDLPEDTKKFVDQVKPQNIDWEA
VGKHLDEWVEKAELEYVQZ

(SEQ. ID. NO. 150)

MIKFDNIQIKYGDFVADNLNLDIHEGEFFTLGPGSGCGKSTTLRALVGFLDPSSGSIEVNGTDVTHLEPEKRGIGIVFQSYALFPTMT
VFDNIAFGLKVKKVAPDVIAKVSAAKIKISDQQLQRNVSELSGGQQQRVALARALVLEPKILCLDEPLSNLDAKLVRDLRKL
KRLQKELGITTLYVTHDQEEALTLSDRIA VFNNGYIEQVGTPEIYHNSQTEFVCDFIGDINVLTDETVEHVLKNTSVFLEDKKGVI
RLEKVRFNRETEQDFILKGTIIDVEFSGVTHYTIKVSQSILNVTSDSQAARSVGESVELFITPSDVLQFZ

(SEQ. ID. NO. 151)

MRHKLNLDWLIRLGLIWFLVTFHIYPNFDLVVNVFVKGGFSLDAVHRVLKSQRALQSIMNSFKLAFSLIITVNVVGILCVLFTEYF
DIKGAKILKGYMTSLIYGGVVLATGYKFVYGPYGLITKFLQNVIPSLDPNWFIFYGAVLFIMTFSGTANHTLFLTNTIRSVDYHTIE
AARNMGAKPFTVFRKVVLPPTLPTLFALTIMVFLSGLSAVAAPMIVGGKEFQTINPMIITFAGMGNSRDLAALLAILGIATTILLTIM
NKIEKGGNYISISKTAPLKKQKASKPWNIIAHIVAYGLFTVFMLPLIFIVLYSFTDPVAIQTGNTLSNFTLENYRLFFSNSAAFSPF
LVSEIYSIIAATTATILAVVFARVVRKHKSDFDFEYGALLPWLLPSTLLAVSLLFTFNQPFVLNQILVGSVLILLIAYIVVKIPFSY
RMVRAILFSVDDMEDAARSMGASPFYTMMKVHIFILPVVLSVIALNFNSLLTDFDLSVFLYHPLAQPLGITIRSAGDETATSNAQA
LVFVYTIVLMIISGTVLYFTQRPGRKVRKZ

Table 3

ID201 - 4106.4 (SEQ. ID. NO. 168)

ATGATAAAAAATCCTAAATTATTAACCAAGTCTTTTTTAAAGAGTTTTCGAATTCTAGGTGGTGGTGGTCTAGTCATTTCATAT
 AGCTATTATTTGACCTTTCTTTTATTATATTCAACTGGAGGGGAAAAAGTTTAAATGAGAGCGCAAGAGTGTTCACGGAGT
 ATTTAAAGACTAAGACATCTGATGAAATTCCAAGCTTACTCCAGTCTTATTCAAAGTCTTGACCATATCTGCTCACCTTAAA
 AGAGATATTGTAGATAAGCGGCTCCCTCTTGTCATGACTTGGATATTAAAGATGGAAAGCTATCAAATTATATCGTGATGTT
 AGATATGTCTGTAGTACAGAGATGGTAAACAGGTAACCGTGCAATTTGTTTACGGGGTGGATGTCTACAAAGAAGCAAAGA
 ATATTTTGCTTTTGTATCTCCATATACATTTTGGTTACAATTGCTTTTTCTTTGTTTTTCTTATTTTATACTAAACGC
 TTGCTCAATCTCTTTTTTACATTTTCAAGGTGACTAGTAAATGCAAGATTGGATGACAATATTCGTTTTGATGAAAGTAG
 GAAAGATGAAGTTGGTGAAGTTGAAAAACAGATTAAATGGTATGTATGAGCACTTGTGAAGGTTATTTATGAGTTGGAAGTC
 GTAATGAGCAAATTGTAAATTTGCAAAATCAAAAGGTTTCTTTGTCGGGAGCATCACATGAGTTGAAAACCCCTTTAGCC
 AGTCTTAGAATTATCCTAGAGAATATGCAGCATAATATTGGAGATTACAAAGATCATCCAAATATATTGCAAGAGTATAAA
 TAAGATTGACCAGATGAGCCACTTATTAGAAGAAGTACTGGAGTCTTCTAAATTTCCAAAGAGTGGACAGAGTGTGCTGAGACCT
 TGACTGTTAAGCCAGTTTTTAGTAGATATTTTATCACGTTATCAAGAATTAGCTCATTCATAGGTGTTACAATTGAAAATCAA
 TTGACAGATGCTACCAGGTCGTGATGAGTCTTAGGGCATTGGATAAGGTTTTGACAAAACCTGATTAGTAATGCAATTAAATA
 TTCAGATAAAAAATGGGCGTGTAAATCATATCCGAGCAAGATGGCTATCTCTCTATCAAAAATACATGTGCGCCTCTAAGTGACC
 AAGAACTAGAACATTTATTGATATATTCTATCTCAATCGTGACAGATAAGGATGAAAGTTCCGGTTTGGGTCTTTAC
 ATTGTGAATAATATTTTAGAAAGCTATCAAATGGATTATAGTTTCTCCCTTATGAACACGGTATGGAATTTAAGATTAGCTT
 GTAG

(SEQ. ID. NO. 152)

MIKNPKLLTKSFLRSFAILGGVGLVIHIAIYLTFPFYIIQLEGEKFNESARVFTEYLKTKTSDEIPSLLOYSKSLTISAHLK
 RDIVDKRLPLVHDLIDKDGKLSNYIVMLDMSVSTADGKQVTVQFVHGVVDVYKEAKNILLLYLPYTFVLTFIAFSFVFSYFYTKR
 LLNPLFYISEVTSKMQDLDDNIRFDESKEDEVGKINGMYEHLKVIYELESRNEQIVKLQNKVSFVRGASHELKTPLA
 SLRIILENMQHNIQDYKDPKYIAKSINKIDQMSHLLLEEVLESSKFQEWTECRETLTVKPVLDVILSRVQELAHSGVITENQ
 LTDATRVVMSLRALDKVLTNLISNAIKYSKNGRVIISEQDGYLSIKNTCAPLSDQLEHLFDIFYHSQIVTDKDESSGLGLY
 IVNNILESYQMDYSFLPYEHGMEFKISLZ

ID202 - 4106.9 (SEQ. ID. NO. 169)

ATGGATAAAATTATTTAAACTATATCAGAAAGCGGAGCCTTTCTGCTTTTGTCTTGATAGCACTGAAACCGTCCGCACTGC
 TCAAGAAAAACATCAAACCAAGCTAGCTCAACTGTAGCGCTTGGTCAAACTCTTATCGCTAGCCAGATTCTCGCAGCCAAATG
 AAAAAGGAAATACCAAACCTTACAGTTAAGGTGTTGGGATCTAGCTCTCTAGGTGCTATTATCACCGTCTGATACCAAGGGG
 AAGCTCAAAGGCTATGTTCAAATCCTGGTGTGATCAATCAAAAGACTGCGACTGGTGAAGTCTAGTCGGACCTTTTGTG
 AAATGGTCAATTCCTCGTTATCACAGACTACGGTACTGGAAATCCTTACAACCTATAACTCCCCTCATCTCTGGAGAAATCG
 GTGAAGACCTTGCCCTTTTACCTTACTGAAAGCCAACAAACGCTTCAAGCGTCTGGCCTCAATGTCTTTTGGACGAGGAAGAC
 AAGGTCAAGGTGTCAGGTGGTTTCTAGTTCAAGTCTTCCAGGAGCCAAGAAAGAGAGATTGCTCGCTTTGAAAAACCGCAT
 CCAAGAAATGCCAGCTATCTCTACTCTTCTCGAAAGCGACGACCATATCGAAGCCCTCCTCAAGGCTATCTACGGGGACGAAG
 CCTACAAGCGTCTTTCTGAAGAAGAAATCCGTTTCCAATGTGACTGTAGCCATGAACGCTTTATGAACGCTCTTGCCAGCCTT
 CCAAGCTCAGACTTACAGGAAATGAAAGAGGAAGACCACGGGGCAGAAATCACTTGTCAATTCGCCAAACTACTTACAACCTT
 TGATGAAAAGGACCTGGAGGAACCTATTCTGTACAAATCTTAA

(SEQ. ID. NO. 153)

MDKIKTISESAGFAFVLDSTETVRTAQEKHQQTASSTVALGRTLIAISQILAAANEKGNTKLTVKVLGSSSLGAIITVADTKG
 NVKGYVQNPVVDIKKTATGEVLVGPFGVNGQFLVITDYGTPNPYNSITPLISGEIGEDLAFYLTESQQTSAVGLNVLLDEED
 KVKVAGGFLVQVLPGAKEEIEARFEKRIQEMPAISTLLESDDHIEALLKAIYGEAYKRLSEEEIRFQCDCSHERFMNALASL
 PSSDLQEMKEEDHGAEITCQFCQTTYNFDEKDLLELIRDKSZ

ID203 - 4115 (SEQ. ID. NO. 170)

ATGAAATCAATAACTAAAAAGATTAAAGCAACTCTTGCAAGAGTAGCTGCCTTGTGTTGCAGTATTTGCTCCATCATTTGTATC
 TGCTCAAGAATCATCAACTTACACTGTAAAGAAGGTGATACACTTTTCAAGAAATCGCTGAAACTCACAACACAACAGTTGAAA
 AATTGGCAGAAAAACAACACATTGATAACATTCAATTGATTTATGTTGATCAAGAGTTGGTTATCGATGGCCCTGTAGCGCCT
 GTTGCAACACCAGCGCCAGCTACTTATGCGGCACCAGCCGCTCAAGATGAAACTGTTTCAGCTCCAGTAGCAGAAATCCAGT
 AGTAAGTGAACAGTTGTTTCAACTGTAAGCGGATCTGAAGCAGAAGCCAAAGAAATGGATCGCTCAAAAAGAATCAGGTGGTA
 GTATACAGCTACAAATGGACGTTATATCGGACGTTACCAATTAA

(SEQ. ID. NO. 154)

MKSITKKIKATLAGVAALFAVFAPSFVSAQESSTYTVKEGDTLSEIAETHNTTVEKLAENNHIDNIHLIYVDQELVIDGPVAP
 VATPAPATYAAPAAQDETVSAPVAETPVVSETVSVSGSEAEAKEWIAQKESGGSIQQLQMDVISDVNTZ

ID204 - 4117.1 (SEQ. ID. NO. 171)

ATGAATTTAGGAGAATTTTGGTACAATAAAATAAAAGAAACAGAGGAAGAAGGTTAATGAAGAAAGTAAGATTTATTTTTT
 AGCTCTGCTATTTTCTTAGCTAGTCCAGAGGGTCAATGGCTAGTGATGGTACTTGGCAAGGAAAAACAGTATCTGAAAGAAG
 ATGGCAGTCAAGCAGCAAAATGAGTGGGTTTTGATACTCATTATCAATCTTGGTTCTATATAAAGCAGATGCTAACTATGCT
 GAAATAGAAATGAAAGCAAGGTGACGACTATTTTACCTCAAATCTGGTGGCTATATGGCCAAATCAGAATTGGGTAGAAGA
 CAAGGGAGCCTTTTATTATCTTGACCAAGATGGAAGATGAAAGAAATGCTTGGGTAGGAACTTCCATGTTGGTGAACAG
 GTGCCAAAGTATAGAAGACTGGGTCTATGATTCTCAATACGATGCTTGGTTTATATCAAAGCAGATGGACAGCAGCAGAG
 AAAGAATGGCTCAAATTAAGGGAAGGACTATTATTTCAAATCCGGTGGTTATCTACTGACAAGTCAGTGGATTAAATCAAGC
 TTATGTGAATGCTAGTGGTGCCAAAGTACAGCAAGGTGGCTTTTTTGACAAACAATACCAATCTTGGTTTTACATCAAAGAAA
 ATGGAAACTATGCTGATAAAGAAATGGATTTTCGAGAATGGTCACTATTATATCTAAATCCGGTGGCTACATGGCAGCCAAT
 GAATGGATTTGGGATAAGGAATCTTGGTTTTATCTCAAATTTGATGGGAAAATGGCTGAAAAGAAATGGGTCTACGATTCTCA
 TAGTCAAGCTTGGTACTACTTCAAATCCGGTGGTTACATGACAGCCAATGAATGGATTTGGGATAAGGAATCTTGGTTTTATC

TCAAATCTGATGGGAAAAATAGCTGAAAAAGAATGGGCTACGATTCTCATAGTCAAGCTTGGTACTACTTCAAATCCGGTGGT
TACATGACAGCCAATGAATGGATTGGGATAAGGAATCTTGGTTTTTACCTCAAATCTGATGGGAAAAATAGCTGAAAAAGAATG
GGTCTACGATTCTCATAGTCAAGCTTGGTACTACTTCAAATCTGGTGGCTACATGGCGAAAAATGAGACAGTAGATGGTTATC
AGCTTGGAGCGATGGTAAATGGCTTGGAGGAAAAACTCAAATGAAAATGCTGCTTACTATCAAGTAGTGCCGTGTACAGCC
AATGTTTTATGATTCAAGAGGCTACAAACTACAGTGCTGAAGAATTGGATAAGGTATTTAGTTTGCTAAACATTAACAATAGCC
TGACAAGCGCTTGGCTATTACTATTTCTGGTTTGTACAGGTATGAAAAACAGAAGATTACAAGCGCTAGATGCTAGTAAGG
ACTTTATCCCTTATTATGAGAGTGATGGCCACCGTTTTTATCACTATGTGGCTCAGAATGCTAGTATCCCAGTAGCTTCTCAT
CTTTCTGATATGGAAGTAGGCAAGAAATATTATTCGGCAGATGGCCTGCATTTTGATGGTTTAAAGCTTGAGAATCCCTTCTCT
TTTCAAAGATTTAACAGAGGCTACAAACTACAGTGCTGAAGAATTGGATAAGGTATTTAGTTTGCTAAACATTAACAATAGCC
TTTTGGAGAACAAAGGGCGCTACTTTTAAGGAAGCCGAAGAACATTACCATATCAATGCTCTTTATCTCTTGGCCATAGTGCC
CTAGAAAGTAACTGGGGAAGAAGTAAATTGCCAAAGATAAGAATAATTTCTTTGGCATACAGCCTATGATACGACCCCTTA
CCTTTCTGCTAAGACATTTGATGATGTGGATAAGGGAATTTTAGGTGCAACCAAGTGGATTAAGGAAAATTATATCGATAGGG
GAAGAACTTTCTTGGAAACAAGGCTTCTGGTATGAATGTGGAATATGCTTCAGACCCCTTATTGGGGCGAAAAAATTGCTAGT
GTGATGATGAAAATCAATGAGAAGCTAGGTGGCAAAGATTAG

(SEQ. ID. NO. 155)

MNLGEFWYNKINKNRGRRLMKKVRFI FLALLFFLASPEGAMASDGTWQKQYLKEDGSQAANEWVFDTHYQSWFY IKADANYA
ENEWLKQGGDYFYLKSGGYMAKSEWVEDKGAFYYLDQDGKMKRNWVGTSYVGATGAKVIEDWVYDSQYDAWFY IKADQHA
KEWLQIKGKDYFFKSGGYLLTSOWINQAYVNASGAKVQGGWLDKQYQSWFY IKENGNVADKEWIFENGHYIYLLKSGGYMAAN
EWIWDKESWFFYLKFDGKMAEKWVYDSHSQAWYFYSKSGGYMTANEWIWDKESWFFYLSKDGKIAEKWVYDSHSQAWYFYSKSGG
YMTANEWIWDKESWFFYLSKDGKIAEKWVYDSHSQAWYFYSKSGGYMAKNETVDGYQLGSDGKWLGGKTTNENAAYYQVVPVTA
NVYDSGEKLSYISQGSVWVLDKDRKSDDKRLAITISGLSSEYMKTEDLQALDASKDFIPYIESDGHFRFYHYVAQNASIPVASH
LSDMEVGGKYYSDGKFLNPFLLFDLTEATNYSALDELKVFSLNINNSLLENKGATFKEAEEHYHINALYLLAHS
LESNWGRSKIADKNNFFGITAYDTTPYLSAKTFDDVDKILGATKWIKENYIDRGRFTLGNKASGMNVEYASDPYWGEEKIAS
VMMKINEKLGKGDZ

ID205 - 4118.1 (SEQ. ID. NO. 172)

ATGAAAAAATAGGTACATTACTCGTTCTCTTCTTTCTGCAATCATTCTTGTAGCATGTGCTAGCGGAAAAAAGATACAAC
TTCTGGTCAAAAACATAAAGTTGTTGCTACAACTCAATCATCGTGATATTACTAAAAATATTGCTGGTGACAAAATGGACC
TTCATAGTATCGTTCCGATTGGGCAAGACCCACACGAATACGAACCACTTCTGAGACGTTAAGAAAACTTCTGAGGCTAAT
TTGATTTTCTATAACGCTATCAACCTTGAACAGGTGGCAATGCTTGGTTTACAAAATTTGGTAGAAAATGCCAAGAAAACCTGA
AAACAAAGACTACTTCGAGTCAGCGACGGCGTGTGATGTTATCTACCTTGAAGGTCAAATGAAAAGGAAAAAGAACCCAC
ACGCTTGGCTTAACTTGAACACGGTATTATTTTGTCTAAAAATATCGCCAAACAATTGAGCGCCAAAGACCTTAACAATAA
GAATTCATGAAAAAATCTCAAAGAATATACTGATAAGTTAGACAACTTGATAAAGAAAGTAAGGATAAAATTTAATAAGAT
CCCTGCTGAAAAGAACTCATTTGTAACAGCGAAGGAGCATCAAATACTTCTTAAAGCCTATGGTGCTCCCAAGTGCTTACA
TCTGGGAAATCAATCAATGAAGAAGGAACCTCTGAACAAATCAAGACCTTGGTTGAAAAAATCTGCCAAACAAAGTTCCA
TCACTCTTTGTAGAAATCAAGTGTGGATGACCGTCCAATGAAAACCTGTTTCTCAAGACACAAACATCCCAATCAAGCTTACA
CTTTACTGACTCTATCGCAGAACAAGGTAAGAAGGCGACAGCTACTACAGCATGATGAAATACAACCTTGACAAGATTGCTG
AAGGATTGGCAAAATAA

(SEQ. ID. NO. 156)

MKKLGTLLVFLSAIILVACASGKKDTSQGLKVVATNSIIADIITKNIAGDKIDLHSIVPIGQDPHEYEPLPEDVKKTSEAN
LIFYNGINLETGGNAWFTKLVENAKKTENKDYFAVSDGVDVILEGQNEKGKEDPHAWLNLENGIIIFAKNIAKQLSAKDPNNK
EFYEKNLKEYTDKLDKDKESKDKFNKI PAEKKLIVTSEGAFKYFSKAYGVPSAYIWEINTEEEGTPEQIKTLVEKLRQTKVP
SLFVESSVDDRPMTVVSQDTNIPYIQAIFDTSIAEQGKEGDSYYSMMKYNLDKIAEGLAKZ

ID206 - 4119.1 (SEQ. ID. NO. 173)

ATGGAATGGTATAAAAAAATCGGACTTCTTGCAACTACAGGTTTAGCTTTGTTTGGGCTCGGCGCTTGTCTCAACTATGGTAA
ATCTGCGGATGGCACAGTACCATCGAGTATTTCAACCAGAAAAAGAAATGACCAAAACCTTGAAGAAATCACTCGTGATT
TTGAGAAGGAAAAACCTTAAGATCAAGGTCAAAGTCGTCAATGTACCAAATGCTGGTGAAGTATTGAAGACACGCGTTCTCGCA
GGAGATGTGCCTGATGTGGTCAATATTTACCCACAGTCCATCGAACTGCAAGAAATGGGCAAAAGCAGGTGTTTTTGAAGATTT
GAGCAACAAAGACTACCTGAAACGCGTGAAAAATGGCTACGCTGAAAAATATGCTGTAACGAAAAAGTTTACAACTGTTCTT
TTACAGCTAATGCTTATGGAATTTACTACAACAAAGATAAATTCGAAGAAGCTGGGCTTGAAGGTTCTGAAACCTGGGATGAA
TTTGAACAGTTAGTCAAAGATATCGTTGCTAAAGGACAAACACCATTGGAATTGCAGGTGCAGATGCTTGGACACTCAATGG
TTACAATCAATTAGCTTTTGCAGACAGCAACAGGTGGGAGAAAAAGAACAAATCAATACCTTCGTTATTTCTCAACCAATGCCA
TTAAATTTGTCGGATCCGATTATGAAAGATGATATCAAGGTCAATGGACATCTTCGATCAATGGATCTAAGCAAAAGAACTGG
GAAGGTGCTGGCTATACCGATGTTATCGGAGCCTTCGCACGTGGGGATGCTTCATGACACCAATGGGTCTTGGGCGATCAC
AGCGATTAATGAACAAAAACCGAATTTAAGATTGGGACCTTCATGATTCCAGGAAAAAGAAAAAGGACAAAGCTTAACCGTTG
GTGCGGAGACTTGGCATGTTCTATCTCAGCCACCACCAAAATCAAAAGAACCAATGCCTTTGTGGAATATATGACCCGT
CCAGAAGTCATGCAAAAAATACTACGATGTGGACGGATCTCCAACAGCGATCGAAGGGGTCAAACAAGCAGGAGAAGATTACCC
GCTTGCTGGTATGACCGAATATGCCTTTACGGATCGTCACTTGGTCTGGTTGCAACAATACTGGACCAAGTGAAGCAGACTTCC
ATACCTTGACCATGAACATATGTCTTGACCGGTGATAAACAAGGCATGGTCAATGATTGAATGCCTTCTTTAACCCGATGAAA
GCGGATGTGGATTAG

(SEQ. ID. NO. 157)

MEWYKKIGLLATTGLALFGLGACSNGKSADGTVTIEYFNQKEMTKTLEEITRDFEKENPKIKVKVNVNPNAGEVLKTRVLA
GDVPDVVNIYPQSIELQEWAKAGVFEDLSNKDYLKRVKNGYAEKYAVNEKVVNVPFTANAYGIYNNKDKFEELGLKVPETWDE
FEQLVKDIAVAKGQTFPGIAGADAWTLNGYNQLAFATATGGGKEANQYLYRYSQPNAIKLSDPIMKDDIKVMDILRINGSKQKNW
EGAGYTDVIGAFARGDVLMTPNGSWAITAINEQKPNFKIGTFMIPGKEKGQSLTVGAGDLAWSISATTKHPKEANAFVEYMTR
PEVMQKYDVGDSPTAIEGVKQAGEDSPLAGMTEYAFTRHLVWLQQYWTSEADFHTLTMNYVLTGDKQGMVNDLNAFFNPMK
ADVDZ

ID207 - 4123.1 (SEQ. ID. NO. 174)

ATGAAGAAAATCAAACCGCATGGACCGTTACCAAGTCAGACTCAGCTAGCTTATCTGGGAGATGAACTAGCAGCTTTTATCCA
CTTCGGTCTCTAATACCTTTTATGACCAAGAATGGGGGACTGGACAGGAGGATCCTGAGCGCTTTAACCCGAGTCAGTTGGATG
CGCGTGAGTGGGTTCTGTGCTCAAGGAAACGGGCTTCAAAGTTGATTTTGGTGGTCAAGCACCACGATGGCTTTGTCTT
TATCCGACAGCTCACACAGATTATTCGGTTAAGGTCAGTCTTGGAGGAGAGGAAAGGGCGACTTGCTCCTTGAAGTATCCCA

AGCTGCCACAGAGTTTGATATGGATATGGGGGTCTACCTGTCCACCGTGGGATGCCCATAGTCCCCCTCTATCATGTGGACCGAG
AAGCGGACTACAATGCCTATTATCTGGCTCAGTTGAAGGAAATCTTATCAAATCCTAACTATGGGAATGCTGGTAAGTTTCGCT
GAGGTTTGGATGGATGGTGCCAGAGGAGAGGGCGCGCAAAAGGTTAATTATGAATTTGAAAAATGGTTTGAACCATTTCGTGA
CCTGCAAGGGCGATTGCTTGATTTTTTCAACAGAAAGCACCAGTATCCGCTGGATTGGCAATGAACGAGGGTATGCAGGTGATC
CACTGTGGCAAAAGGTGAATCCTGATAAACTAGGAACAGAAAGCAGAGCTGAACCTATCTTCAGCACGGGGATCCCTCGGGCACG
ATTTTTTCAATCGAGAGGCAGATGTTTCCATCCGTCCAGGCTGGTTCTACCATGAGGATCAGGATCCTAAGTCTCTCGAGGA
GTTGGTCGAAATCTACTTTCACTCAGTAGGGCGAGGAACCTCACTCTTGCTTAATATTCGCCCGAATCAAGCTGGGCTCTTTG
ATGCAAAGGATATTGAACGACTTTATGAATTTGCGACCTATCGCAATGAGCTCTATAAAGAAGATTGGCTCTGGGAGCTGAG
GTATCTGGTCCAGCTCTTTCCGAGACTTTGCTTGTGCGCCATTGACAGACGGCCTTGAGACCAGCTCTTGGGCAAGCGATGC
AGACTTGCCCATCCAGTTAGAACTCGACTTAGGTTCTCTAAAACTTTTGATGTAATTGAGTTAAGAGAAGATTGAAGCTAG
GGCAACGAATCGCTGCTTTTCATGTGCAAGTAGAGGTGGATGGTGTCTGGCAGGAGTTTGGTTCGGGTCTACTGTTGGTTAC
AAACGCTCTCTTACGAGGAGCAGTTGTTGAGGCACAGAAGATACGTGTAGTATTACAGAATCACAGGCTTTGCCCTTGTGAC
CAAGATTTCCCTTTATAAACTCTGGATTATCAAAAAAGAAGTTGTTTCAGGAACCTAGCATTTCAGAAAAAGCCTAGCTG
TGGCAAAGGAGAAAAATGCCTATTTTACAGTTAAGCGCAGAGAATGTAGTGGTCTTTAGAAGCTAAGATTTTCGATTCAACCG
GGACAGGTGTTCAAGTGTGTCGCTATCAGGATGAGATTCAAGTCTTGCCTTTCAAACCTGGTGAGACTGAAAAAGTCTGAC
GCTACCAACCTTGTATTTCGAGGAGATAAAACCTTGGAATTTCTATCTGAACCTAACGGTGGATGGTCAGCTTGTGGATCAAC
TTCAAGTCCAAGTTTCATAA

(SEQ. ID. NO. 158)

MKKIKPHGLPLPSQTQLAYLGDELAALFIHFGPNTFYDQEWGTGQEDPERFNPSQLDAREWVRVLKETGFKKLILVVKHHDGFVL
YPTAHTDYSVKVSPWRRKGDLLEVSQAATEFDMGMVYLSPWDHSPHYHVDREAYNAYYLAQLKEILSNPNYGNAGKFA
EVWMDGARGEGAQKNYEFKWFETIRDLOGDCLIFSTEGTSIRWIGNERGYAGDPLWQKVNPKDLGTEAELNYLQHGDPSTG
IFSIGEADVSRPGWFYHEDQDPKSLEELVEIYFHSVGRGTPLLLNPPNAGLFDKDIERYEFATYNYKEDLALGAE
VSGPALSDAFACRHLTDGLETSWASDADLPQLLELDLGS PKTFDVI ELREDLKLQRIAAFHVQVEVDGVWQEFSGSHTVGY
KRLLRGAVVEAQKIRVVITESQALPLLTKISLYKTPGLSKKEVVQELAFAEKSLAVAKGENAYFTVKRRECSGPLEAKISIQP
GTGVHGVAYQDEIQVLAFTGETEKSLLTPTLYFAGDKTLDFYLNLTVDGQLVDQLVQVQSZ

ID208 - 4125.12 (SEQ. ID. NO. 175)

ATGCTTGAAGACTGAAAGAATAACATTATATGTTTGGATCAGTTTAATTTTTATGATTTTCCCATCCTGTCTGTAGTGAC
TGGGTGGCTTTCTGCCTGGCATTATTTGATTGATATTCTATTTGTAGTGGCATATTTGGGTGTTTTAACAACCTAAGAGCCAGC
GCCTATCTTGGCTATATTGGGCGCTCATGCTGACTTATGTAGTTGGGAATACTGCCTTTGTTGCTGTTAATTATATCTGGTTT
TTCTTTTCTCTAATCTCTTAAGTTATCATTTAGCGTACGTAGTTTAAAGTCTTTACATGTCTGGACTTTTCTTCTTGC
TCAAGTCTTGTGTTGGGGCAACTGTTGATTTTTCAGAGAATCGAAGTTGAGTTTCTATTTCTATCTACTTTGAATTTCTTACT
TTGTGCTATTAATGACTTTTGGATTGGTTTCGATTTCGTATTGTCGAGGATTTGAAAGAAGCTCAGGTCAAGCAAAATGCTCAG
ATAAATCTATTGCTTGTGAAAATGAACGTAGTCGTATCGGTTCAGGATTTGCATGATAGTCTGGGACATACCTTTGCTATGCT
GAGTGTCAAGACAGATTTTGCCTTGCAGTTATTTTCAGATGGAGGCTTATCCACAGGTGGAAGGAATTAAAGAAATTCCACC
AGATCAGCAAGGATCCATGA

(SEQ. ID. NO. 159)

MLERLKRHYMFWSLIFMIFPILSVVTGWLSAWHLLIDILFVVAYLGVLTTKSQRLSWLYWGLMLTYVVGNTAFVAVNYIWF
FFFLSNLLSYHFSVRSLKSLHVWTFLLAQVLVVGQLLIFQRIEVEFLFYLLVILTFVDLMTFGLVRIRIVEDLKEAQVKQNAQ
INLLLAENERSRIGQDLHDSLGHTFAMLSVKTDLALQLFQMEAYPQVEKELKEIHQISKDPZ

ID209 - 4126.3 (SEQ. ID. NO. 176)

ATGAATGATAAGTTAAAAATCTTCTTGTGTAGGAGTATTTTTCTAGCCATAACCGGTTTCTATGTTCTATTGATACGAAA
TGCAGGGCAGACAGATGCCTCGCAAATTTGAAAAGGCGGCAGTTAGCCAAGGAGGAAAAGCAGTGAAAAAACAGAAATTAGTA
AAGACGCAGACTTGCACGAAATTTATCTAGCTGGAGGTTGTTTCTGGGAGTGGAGGAATATTTCTCACGTGTTCCCGGGGTG
ACGGATGCCGTTTTCAGGCTATGCAAATGGTAGAGGAGAAACAACCAAGTACGAATTGATTAACCAACAGGTCATGCAGAAAC
CGTCCATGTCACCTTATGATGCCAAGCAAATTTCTCTCAAGGAACTCTGCTTCACTATTTCCGCATTATCAATCCAACAGCA
AAAATAAACAGGAAATGATGTGGGGACCCAGTACCGTACTGGTGTATTACACAGATGACAAGGATTTGGAAGTATTAAC
CAAGTCTTTGATGAGGTGGCTAAGAAATACGATCAACCTCTAGCAGTTGAAAAGGAAACTTGAAGAATTTGTGGTGGCTGA
GGATTACCATCAAGACTATCTCAAGAAAAATCCAAATGGCTACTGCCATATCAATGTTAATCAGGCGGCCTATCCTGTCTATTG
ATGCCAGCAAAATCAAAAACCAAGTATGAGGAATTTGAAAAGACCCCTGTCACTGAGGAGTATGCAATACCCAGGAAAT
CAACAGAACGAGCTTTCTCAAACCGTTACTGGGATAAATTTGAATCCGGTATCTATGTGGATATAGCAACTGGGGAACCTCT
CTTTTCATCAAAAGACAAATTTGAGTCTGGTGTGGTGGCTGAGTTTACCAACCCATCAGTCCAGATGTTGTCACTTACA
AGGAAGATAAGTCTTACAATATGACGCGTATGGAAGTGGCAGCGGATGAGAGATTCTCACCTTGGGATGTCCTTTACGGAT
GGTCCACAGGACAAGGGCGGCTTACGTTACTGTATCAATAGCCTCTCTATCCGCTTTATTTCCAAAGACCAATGGAAGAAAA
AGGcTACGCTTATTTACTAGATTATGTTGATTAA

(SEQ. ID. NO. 160)

MNDKLIKIFLLLVFFLAITGFYVLLIRNAGQTDASQIEKAAVSQGGKAVKKEISKDADLHEIYLAGGCFWGVVEEYFSRVPV
TDAVSGYANGRGETTKYELINQTHAETVHVTYDAKQISLKEILLHYFRIINPTSKNKQGNVDGTYRTGVVYTTDDKLEVIN
QVFDVAKKYDQPLAVEKENLKNFVVAEDYHQDYLLKKNPNGYCHINVNQAAYPVIDASKYPKPSDEELKKTLSPEEYAVTQEN
QTERAFSNRYWDFKESGIYVDIATGEPLFSSKDKFESGCGWPSFTQPI SPDVVYTKEDKSYNMTRMEVRSRVGDSHLGHVFTD
GPQDKGGLRYCINSLIRFIPKQMEKGYAYLLDYVDZ

ID210 - 4127.1 (SEQ. ID. NO. 177)

ATGAAAAAGAAATGGATGTATTATGCTGCTTGTCTTCTAATGAATCTGCCGATGACAGTTCATCTGATAAAGGAGACGGCGG
TTCGCTAGTCGTTTATTCACCAAACTCAGAGGGCTTAATTGGAGCAACTATTCCTGCCTTTGAAGAAAAATATGGTATCAAAG
TAGAAGTATTCAAGCTTGGTACTGGAGAACTTTTCAAAAACTAGAGTCAGAAAAAGAAAGTTCTGTAGCTGATGTTATCTTT
GGTGGTCTTTATACACAATATACTACCCACGGAGAACTCTTTGAAAACTATACCTCAAAGAAAAATGATAATGTTATCAAAGA
ATATCAAAACACAACCTGGCTACTCTACTCTTATACACTAGATGGTAGTGTTTAATCGTCAACCTCTTAATACTAAAGGCA
TGAACATCGAAGGATATAACGATCTTTTCAAACCTGAACTAAAGAGAAATCGCAACTGCTGACCCAGCAAACTCTTCTAGC
GCCTTTGCTCAATTAACAAATATGCTACAAGCTCAAGGTGGTTACAAAGATGATAAGGCTTGGTCTTATGTAAAAGATCTTTT
CACACTTATTGATGTTAAAATCGGTTCAAGTTTCATCTAGTGTCTATAAAGTAGTCGCTGATGGAGAAATGGCTGTTGGTCTCT
CTTATGAAGATCCAGCAGTTAACTCTTAAATGACGGAGCTAACATTAAAGGTAGTCTATCCAAAGAGGAACCGTCTTCTCTA
CCTGCTAGTGTCTATCGTTTAAAAATCTAAAAATATGAAAAATGCAAGAAATTTATCGATTTTATCTCTCAAGAAAT



Hand Delivered March 18, 2003

ACAAGATACACTTGGTACAACCACTACTAACCGTCTGTTTCGTAAAAATGCTAAAAACAAGCGAAAAACATGAAACCAATTGACA
AAATCAAAACACTCACTGAAGATTATGATTATGTCATCAAGAATAAAATCAGATATCGTTAAGAAATACAACGAAGTCTTTACA
GATATCCAATCTAAACAGTAA

(SEQ. ID. NO. 161)

MKKKWMYYAACSSNESADSSSDKGDGSLVVYSPNSEGLIGATIPAFEEKYGIKVELIQAGTGELFKKLESEKEVPVADVIF
GGSYTQYTHGELFENYTSKENDNVIKEYQNTTGYSTPYTLGDSVLI VNPDLTKGMNIEGYNDLFKPELKGKIATADPANSSS
AFAQLTNMLQAQGGYKDDKAWSYVKDLFTLIDGKIGSSSSSVYKVVADGEMAVGLSYEDPAVKLLNDGANIKVVYPKEGTVFL
PASAAIVKSKNMENAKKFIIDFIIISQEVQDTLGTTTTNRPVKNAKTSNMKPIDIKITLTEDYDYVIKNKSDIVKKYNEVFT
DIQSKQZ

ID211 - 4127.2 (SEQ. ID. NO. 178)

ATGAGTGAGATCAAAATTATTAACGCCAAAAAAATCTACCACGATGTCCCTGTTATTGAGAATTTGAACATTACAATTCCAAA
AGGAAGTCTCTTTACCCTTCTTGGAGCTTCAGGATGTGGGAAAACGACCTTCTTCGTATGATTGCAGGTTTCAACAGTATCG
AAGGTGGAGAATTTTACTTCGATGATACAAAAATCAATAATATGGAACCCAGCAAAACGCAATATCGGGATGGTTTCCAAAAC
TACGCTATTTTCCACATTTGACTGTCCGAGACAACGTTGCTTTTGGTCTTATGCAAAAGAAGGTTCCAAAAGAAGAATTGAT
TCAACAGACCAACAAGTATCTTGAACCTCATGCAAAATTGCTCAATATGCGGATCGAAAGCCCGATAAACTCAGTGGTGGACAAC
AACACGTGTCACTTGGCATGCGCCTTAGCGGTTAATCCAAGTGTCTCCTCATGGACGAGCCACTTAGTAATCTGGAGGCC
AAACTTCGCTTGGATATGCGTCAAGCCATCCGAGAAATCCAACACGAAGTGGGAATTACAACCTGTTTATGTACCCACGACCA
AGAAGAAGCCATGGCTATTTAGACCAAAATTGCTGTTATGAAAGATGGGGTGATCCAACAAATCGGCCGACCAAAAGAAGTCT
ATCATAAAACAGCTAATGAGTTTGTGGCAACCTTTATCGGACGCACAAATATTATCCCTGCCAATCTTGAAAAACGGAGCGAC
GGCGCTTATATCGTCTTTTTCAGATGGCTATGCCCTTCGAATGCCAGCTCTTGATCAGGTTGAGGAGCAAGCTATTATGTAAG
CATTCGTCCTCGAAGAGTTTATCAAAGATGAATCTGGAGATATTGAAGGAAGTATTAGAGATAGCGTCTATCTTGGACTAAATA
CGGATTATTTTTCATTGAGACAGGTTTTCGCTCAAAAATTAAGTTAGTGAAGAATCAACTTTTGAAGAAGATCTACAAAAAGGC
AATCGTATTCGTCTACGAATCAATACGCAAAAATTAACATCTTTTCTGCAGATGGTTCCTCAAAACCTGATAAAAGGAGTCAA
CCATGGAACGTAA

(SEQ. ID. NO. 162)

MSEIKIINAKKIYHDPVPIENLNITIPKGSFLTLLGASGCGKTTLLRMIAGFNSIEGGEFYFDDTKINNMEPSKRNIQMVFN
YAFPHLTVRDQVAFGLMOKKVPKEELIQNTKYLELMQIAQYADRKPDKLSGGQQQRVTLACALAVNPSVLLMDEPLSNLEA
KLRLDMRQAIQREIQHEVGITTVYVTHDQEEAMASDQIAVMKDVIIQQIGRPKELYHKPANEVATFIRGTNIIPANLEKRS
GAYIVFSDGYALRMPALDQVEEQAIHVSIRPEEFIKDESQDIEGTIRDSVYLGNTDYFIETGFASKIQVSEESTFEEDLQKG
NRIRLRINTQKLNIFADGSQNLIKGVNHTZ

ID212 - 4136.1 (SEQ. ID. NO. 179)

ATGAAGAAAAAATTATTTGGCAGGTGCCATCACACTATTATCAGTAGCAACTTTAGCAGCTTGTTTGCAGAGGGTCAAGAGGTGC
AGACCTTATCAGCATGAAAGGGGATGTCTTACAGAACATCAATTTTATGAGCAAGTAAAAGCAACCTTTCAGCCCAACAAG
TCTTGTAAATATGACCATCCAAAAAGTTTGTAAAAACAATATGGCTCAGAGCTTGATGATAAGAGGTTGATGATACTATT
GCCGAAGAAAAACAATATGGCGAAAACTACCAACGTGTCTTGTCAACAAGCAGGTATGACTCTTGAAACACGTAAGAGTCA
AATTCGTACAAGTAAATTAGTTGAGTTGGCAGTTAAGAAGGTAGCAGAAGCTGAATTGACAGATGAAGCCTATAAGAAAGCCT
TTGATGAGTACACTCCAGATGTAAACGGCTCAAAATCATCCGTCTTAATAATGAAGATAAGGCCAAAGAAGTTCTCGAAAAAGCC
AAGGCAGAAGGTGCTGATTTTGCTCAATTAGCCAAAGATAATTCAACTGATGAAAAACAAAAGAAAAATGGTGGAGAAATTAC
CTTTGATTCTGCTTCAACAGAAGTACCTGAGCAAGTCAAAAAGCCGCTTTTCGCTTATAGATGTGGATGTGTTTCTGATGTA
TTACAGCAACTGGCACACAAGCCTACAGTAGCCAATATTACATTGTAAAACTCACTAAGAAAAACAGAAAAATCATCTAATATT
GATGACTACAAAGAAAAATTAATAACTGTTATCTTGACTCAAAAACAAAATGATTCAACATTTGTTCAAAGCATTATCGGAAA
AGAATTGCAAGCAGCAATATCAAGTTAAGGACCAAGCCTTCCAAAATATCTTTACCCAATATATCGGTGGTGGAGATTCAA
GCTCAAGCAGTAGTACATCAAACGAATAG

(SEQ. ID. NO. 163)

MKKKLLAGAITLLSVATLAACSKGSEGADLISMKGDVITEHQFYEQVKSNPAAQQVLLNMTIQKVFEKQYGSLEDDKEVDDTI
AEEKQYGENYQVRLSQAGMTLETRKAQIRTSKLVELAVKKVAEAEALTDEAYKKAFDEYTPDVTAQIIRLNNEDKAKEVLEKA
KAEADFAQLAKDNSTDEKTKENGGEITFDSASTEVEPQVKAAAFALDVGSDVITATGTQAYSSQYIVKLTKKTEKSSNI
DDYKEKLKTVILTQKQNDSTFVQSIIGKELQAANIIVKQDQAFQNIIFTQYIGGGDSSSSSSSNEZ

ID213 - 4137.3 (SEQ. ID. NO. 180)

ATGAAAAAAATATTAACAATATGTAAACCTTAGGTACTGTAGTGGTATTATCAGCATTTGTTGCTAACTCAGTTGCAGCTCA
GGAGACTGAAACTTCTGAAGTATCAACACCAAAAGTTGGTGCAACCTGTTGCACCAACGACTCCGATTCGGAAGTACAACCTA
CATCGGATAACTCTTCGGAAGTTACTGTACAACCTCGAACAGTTGAAACTACTGTTAAGGATCCATCTTCTACAGCGGAAGAA
ACTCCTGTCTTAGAAAAAATAATGTTACTTTAACAGGGGGCGGAGAAAAATGTTACTAAAGAGTTAAAGGATAAATTTACTAG
CGGTGACTTTACTGTAGTGATTAAGTACAATCAGTCAAGTGAGAAAGGCTTACAAGCTCTGTTTGGAAATATCTAATTTCAAAC
CCGGTCAACAAAATAGTTATGTAGATGTGTTCTTAGAGACAATGGTGAGTTGGGGATGGAAGCGCGTGATACTTCTTCCAAT
AAAAATAACCTAGTATCCAGACCTGCTTCAGTTTGGGGTAAAGTACAAAACAAGAGGCTGTGACTAACACTGTTGTCAGTAGTAGC
AGATTCACTCAAAAAACATATTTTATACGCAATGGTACAAAAGTAGTAGAAAAGAAAGTGGATAATTTCTTAACATCA
AGGATATTAAAGGTATTGATTACTATATGCTTGGGGGAGTGAAACGTGCAGGAAAAACGGCGTTTGGTTTTAACGGAACACTA
GAAAATATCAAAATCTTTAATAGTGCAATTGGATGAAGAACTGTTAAAAAGATGACAAACAAACGCTGTACTGGACATTTAAT
TTATACGGCTAATGATACAACAGGTTCTAATACTTTCCGTATTCCAGTTCTGTATACTTTTAGCAATGGTCCGGTATTTTCAA
GCATTGACGCTCGTTACGGTGGAACTCATGATTTCTGAATAAAAATTAATATTGCTACAAGTTATAGTGATGATAATGGTAAG
ACATGGACTAAACCAAAATTAACATTGGCATTGATGATTTTGCGCCAGTACCATTAGAATGGCCTCGTGAAGTTGGTGGACG
TGACTTACAAATCAGCGGTGGTGCAACCTATATTGACTCTGTTATTGTTGAAAAAAGAACAACAAGTACTCATGTTTGTCTG
ATGTCAGCTGCTGGAGTAAGTTTGTAGAGAAGCAACTAGAAAAGATTCAAGTTATAAAACAAATTTGATGGTAATTATTACCTT
AAATTAAGGAAACAAGGTGATAGTATTACAATTATACTATTCTGTGAGAATGGTACTGTATACGACGATCGTACCAACAGACC
AATGAATTTTTCAGTAGATAAAAAATTTCCGGTATTAAACAAAATGGTAATTATTGACGGTAGAGCGG

(SEQ. ID. NO. 164)

MKKNIKQYVTLGTVVLSAFVANSVAAQETETSEVSTPKLVQVPVAPTTPISEVQPTSDNSSEVTVQPRVETTVKDPSSSTAEETPVLEKNNVTLTGGENVTKELKDKFTSGDFTVVIKYNQSSSEKGLQALFGISNSKPGQQNSYVDVFLRDNGELGMEARDTSSNNKNNLVSRLPASVWVGKYKQEAVENTVAVVADSVKKTYSLYANGTKVVEKKVDNFLNFKDIKGIDYYMLGGVKRAGKTAFGFNGTLENIKFFNSALDEETVKMMTTNAVTHGLIYTANDTTGSNYFRIPVLYTFSNGRVFSSIDARYGGTHDFLNKINIATSYSDDNGKWTTKPKLTLAFDDFAPVPLEWPREVGGRLQISGGATYIDSVIVEKKNKQVLMFADVMPAGVVSFREARTRKDSGYKQIDGNYYLKLKQGDIDYNYTIRENGTVYDDRTNRPTFESVDKNFGIKQNGNYLTVER

ID214 - 4185 (SEQ. ID. NO. 181)

ATGAAAAAATTTAGCCTATTACTAGCTATCCTACCATTTTTTGGTTGCTGTGAGAATCAAGCTACACCCAAAGAGACTAGCGCTCAAAGACAATCGTCCCTTGTACAGCTGGCGACGTGCCACCATTGACTACGAAGACAAGGGCAATCTGACAGGCTTTGATATCGAAGTTTAAAGGCAGTAGATGAAAAACTCAGCGACTACGAGATTCAATTCCAAAGAACCGCTGGGAGAGCATCTTCCCAAGGACTTGATTCTGGTCACTATCAGGCTGCGGCCAATAAATTGAGTTACACAAAAGAGCGTGCTGAAAAATACCTTTACTCGCTTCCAATTTCCAACAATCCCTCGTCTTGTGACCAACAAGAAAAATCCTTTGACTTCTCTTGACCAGATCGCTGGTAAAAACAACACAGAGGATACCGGAACCTTCAACGCTCAATTCATCAATAACTGGAATCAGAAACACACTGATAATCCCGCTACAATTAATTTTTCTGGTGAGGATATTGGTAAACGAATCCTAGACCTTGCTAACGGAGAGTTTGATTCTCTAGTTTTTGACAAGGTATCCGTTCAAAAGATTATCAAGGACCGTGGTTTAGACCTCTCAGTCGTTGATTTACCTTCTGCAGATAGCCCCAGCAATTATATCATTTTCTCAAGCGACCAAAAAGAGTTTAAAGAGCAATTTGATAAAGCGCTCAAAGAACCTATCAAGACGGAACCTTGAAAAACTAGCAATACCTATCTAGGTGGTTCTTACCTCCAGATCAATCTCAGTTACAATAA

(SEQ. ID. NO. 165)

MKKFSLLLAILPFLVACENQATPKETSQKTIIVLATAGDVPPFDYEDKGNLTGFDIEVLKAVDEKLSDEYEQFORTAWESIFPGLDSGHYQAAANNLSYTKERAELYSLPISNNPLVLVSNKKNPLTSLDQIAGKTTQEDTGTSNAQFINNWNQKHTDNPATINFSGEDIGKRILDLANGEFDLVDKVSQKIIKDRGLDLVVDLPSADSPSNYIIIFSSDQKEFKEQFDKALKELYQDGTLEKLSNTYLGGSYLPDQSQLQZ

ID215 - 4211.1 (SEQ. ID. NO. 182)

ATGAAAAAATAGTTTTATATCATATCCTCACTCTTTTTTGCTGTGTCTTATTTGTCTATGCTACGGCGACGAATTTTCAAAACAGTACCAGTGCTAGGCAGGTAAAAACGGAAACCTATACCTAATACAGTAACAAATGTCCCTATTGACATACGCTATAATAGTATAAGTATTTTATTAGCGGTTTTTGCTTCAGAAGTATCAGTGGTCTTGACTGGTGCAAATCGCCTATCGCTAGCTAGTGAAATGCAAGAAAGTACACGTAAATTCAAGGTTACTGCTGACCTAACAGATGCCGGTGTGGAAAGATTGAAGTTCTTTGAGCATTGAAGATTACCCAATGGGCTGACCGCTGTGGCGACTCCGCAAAAAATTACAGTCAAGATTGGTAAGAAGGCTCAGAAGGATAAGGTAAGATTGTACCAAGAGATTGACCTAGTCAAATTGATAGTCGGGTACAAATTGAAAATGTGATGGTGTGAGATAAAGAAAGTGTCTATTACGAGTGACCAAGAGACATTGGATAGAATTGATAAGATTATCGCTGTTTTGCCAACTAGCGGAACGTATAACAGGTAATTACAGTGGTTTCACTACCTTTGACAGGCAATCGACCGCAATGGTGTGTCTTACCGGCAGTTATCACTCCGTTTGATACAAATATGAAGGTGACTACAAAACAGTAGCACCAGATTCAAGCACATCAAATTCAGTACAAGCAGTTTATCGGAGACATCTTCGTCAACGAAAGCAACTAGTTCAAAAACGAATTAA

(SEQ. ID. NO. 166)

MKKNSLYIISLFFACVLVYATATNFQNSTSARQVKTEYTNVTNVPIDIRYNSDKYFISGFASEVSVVLGTANRLSLASEMQESTRKFKVTADLTAGVGTIEVPLSIEDLPNGLTAVATPQKIVTKIGKKAQKDKVKIVPEIDPSQIDSRVQIENVMVSDKEVSITSDQETLDRIDKIIAVLPTSERITGNYSGSVPLQAIDRNGVVLPAVITPFDITMKVTTKPVAPSSSTSNSSTSSSSETSSSTKATSSKTNZ

ID216 - 4127.3 (SEQ. ID. NO. 183)

ATGTTGATTGGCGAAGGGTATCGGACTTTCCCTGTCTGATTATATACCAATTTATTAGCGAGGTTGGAGGAAATTTCTGCTTTTGCAATTATGGCGATTATCATTGCTTGGCAATTTTCTTATCCAAAAACACATTGCAAACCGCTACAGTTTCAGCATGAATCTGCTCCATCCAATTGAGCCTAAAAAACTACAAAAGGAAAAATGGCTGCCATTTATGCAACAGTCTACGGAATTATCTTTATCTGTGTTTACCTCAAATCTACTTAATTTATACCTCTTTCTTAAAAACATCAGGTATGGTATCTGTTAAAGGTTATTCTCCAAACAGTTACAAGGTAGCTTTCCATCGTATGGGATCTGCTATTTTCAATACCATTCTGATCCCTTTGATTGCCTTAGTTCTAGTTGTTCTATTGCGACATTTATCTCCTACCTAGCCGTTAGAAAACGGAATTTGTTTACAACTTAATTGACAGCCTCAGTATGGTACCTTATATTGTACCAGGAACCGTTCTAGGGATTGCCTTCATTCTTCTCTCAATACTGGTCTATTTGGAAGTGGATTTCTTATGATTACAGGACTGCTTTCATCTTGATTATGTCTCTATCTGCCAGAGATTACCTTATACTATTGCTCATCTGTTGCTAGCTTACAACAAATAGCACCAAGTATTGAAGAAGCTGCTGAAAGCTTAGGAAGTAGTCGTCTCAATACCTTTGCTAAGATTACAACCTCCAATGATGCTATCTGGTATCATTTCTGGAGCCATCTTATCTTGA

(SEQ. ID. NO. 167)

MLIGEGYRTFPVLIYTFQFISEVGGNSAFAIMAIIIALAIFLIQKHIANRYSFSMNLHPIEPKKTTKGKMAAIYATVYGIIFI SVLPQIYLIYTSFLKTSGMVSVKGYSPNSYKVAFHRMGSAIFNTIRIPLIALVLVLPATFISYLAVRKRNLFTNLIDSLSMVPIVPGTVLGIAFISSFNTGLFGSGFLMITGTAFILIMSLSARRLPYTISSVASLQQIAPSIEEAESLGSSRLNTFAKITTPMMLSGIISGAILSZ

Table 4

ID301 (SEQ. ID. NO. 196)

ATGAATAAGAAAAAATGATTTTAAACAAGTCTAGCCAGCGTCGCTATCTTAGGGGCTGGTTTTGTTACGTCCTCAGCCTACTTT
 TGTAAGAGCAGAAGAACTCTCCACAAGTTGTGCAAAAAATCTTCATTAGAGAAGAAATATGAGGAAGCAAAAGCAAAAGCTGATA
 CTGCCAAGAAAGATTACGAAACGGCTAAAAAGAAAGCAGAAGACGCTCAGAAAAAGTATGAAGATGATCAGAAGAGAACTGAG
 GAGAAAGCTCGAAAAGAAGCAGAAGCATCTCAAAAATTGAATGATGTGGCGCTTGTGTTCAAAATGCATATAAAGAGTACCG
 AGAAGTTCAAAATCAACGTAGTAAATATAATCTGACGCTGAATATCAGAAAAAATTAACAGAGGTCGACTCTAAAAATAGAGA
 AGGCTAGGAAAAGAGCAACAGGACTTGCAAAATAAATTTAATGAAGTAAGAGCAGTTGTAGTTCTGAACCAAATGCGTTGGCT
 GAGACTAAGAAAAAAGCAGAAGAAGCTAAAGCAGAAGAAAAAGTAGCTAAGAGAAAAATGATTATGCAACTCTAAAGGTAGC
 ACTAGCGAAGAAAGAAGTAGAGGCTAAGGAACTTGAAATTGAAAAAATCAATATGAAATTTCTACTTTGGAACAAGAAGTTG
 CTACTGCTCAACATCAAGTAGATAATTTGAAAAAACTTCTTGCTGGTGCGGATCCTGATGATGGCACAGAAGTTATAGAAGCT
 AAATTAAGAAAAAGGAGAAGCTGAGCTAAACGCTAAACAAGCTGAGTTAGCAAAAAAACAACAGAACTTGAAAAAATTCTTGA
 CAGCCTTGATCCTGAAGGTAAGACTCAGGATGAATTAGATAAAGAAGCAGAAGAAGCTGAGTTGGATAAAAAAGCTGATGAAC
 TTCAAAAATAAAGTTGCTGATTTAGAAAAAGAAATTAGTAACCTTGAAATATTACTTGGAGGGGCTGATCCTGAAGATGATACT
 GCTGCTCTTCAAAATAAATTAGCTGCTAAAAAAGCTGAGTTAGCAAAAAAACAACAGAACTTGAAAAAATTCTTGACAGCCT
 TGATCCTGAAGGTAAGACTCAGGATGAATTAGATAAAGAAGCAGAAGAAGCTGAGTTGGATAAAAAAGCTGATGAACCTTCAA
 ATAAAGTTGCTGATTTAGAAAAAGAAATTAGTAACCTTGAAATATTACTTGGAGGGGCTGATTCTGAAGATGATACTGCTGCT
 CTTCAAAAATAAATTAGCTTACTAAAAAAGCTGAATTGGAAGAACTCAAAAAAGAAATTAGATGACAGCTTGAAGTTAGGCTT
 TGATGGAGATGAAGAAGAACTCCAGCGCCGGCTCCTCAACCAGAGCAACCAGCTCCTGCACCAAAACCAGAGCAACCAGCTC
 CAGCTCCAAAACCAGAGCAACCAGCTCCTGCACCAAAACCAGAGCAACCAGCTCCTCAAAACCAGAGCAACCAGCTCCTCA
 GCTCCAAAACCAGAGCAACCAGCTAAGCCGAGAAACAGCTGAAGAGCCTACTCAACCAGAAAAACAGCCACTCCAAAAAC
 AGGCTGGAAAAAAGAAACCGGTATGTGGTATTTCTACAATACTGATGGTTCAATGGCAATAGGTTGGCTCCAAAACACCGGTT
 CATGGTACTACCTAAACGCTAAACGGCGCTATGGCAACAGGTTGGGTGAAAGATGGAGATACCTGGTACTATCTTGAAGCATCA
 GGTGCTATGAAGCAAGCCAATGGTTCAAAGTATCAGATAAATGGTACTATGTCAACAGCAATGGCGCTATGGCGACAGGCTG
 GCTCCAATACAATGGCTACTGGTACTACCTCAACGCTAATGGTATGGCGACAGGATGGCTCCAATACAACGGTTCTATGGT
 ATTACCTCAACGCTAATGGTATATGGCGACAGGATGGGCTAAAGTCAACGGTTCAATGGTACTACCTAAACGCTAACGGTGCT
 ATGGCTACAGGTTGGGCTAAAGTCAACGGTTCAATGGTACTACCTAAACGCTAACGGTTCAATGGCAACAGGTTGGGTGAAAGA
 TGGGATACCTGGTACTATCTTGAAGCATCAGGTGCTATGAAAGCAAGCCAATGGTTCAAAGTATCAGATAAATGGTACTATG
 TCAATGGCTTAGGTGCCCTTGCACTCAACACAACCTGTAGATGGCTATAAAGTCAATGCCAATGGTGAATGGGTTAA

(SEQ. ID. NO. 184)

MNKKMILTSLASVAILGAGFVTSQPTFVRAEESPQVVEKSSLEKKYEEAKAKADTAKKDYETAKKKAEDAQKKYEDDQKRTE
 EKARKEAEASQKLNVDVALVVQNAVKEYREVQNRQSKYKSDAEYQKLTTEVDSKIEKARKEQQDLQNKFNVEVRAVVVPEPNALA
 ETKKKAEEAKAEKVKAKRYDYATLKVALAKKEVEAKELEIEKLQYEISTLEQEVATAQHVDNLKLLLAGADPDDGTEVIEA
 KLKKEAEELNAKQAELEKQTELEKLLDLDPEGKTQDELDEKEAEAEELDKADELQNKVADLEKEISNLEILLGGADPEDDT
 AALQNKLAAKKAELEKQTELEKLLDLDPEGKTQDELDEKEAEAEELDKADELQNKVADLEKEISNLEILLGGADSEDDTAA
 LQNKLATKKALEKQTELEKLLDLDPEGDEETPPAPAPQEPQAPAPKPEQAPAPKPEQAPAPKPEQAPAPKPEQAPAPKPEQAP
 APKPEQAPKPEKPAEETQPEKPAETPKTGWKQENGMYFYNTDGSMAIGWLQNGSWYYLNGANGMATGWVKDGTWYYLEAS
 GAMKASQWFKVSDKWYVNSNGAMATGWLQYNGSWYYLNGANGMATGWLQYNGSWYYLNGANGMATGWAKVNGSWYYLNGANG
 MATGWAKVNGSWYYLNGANGMATGWVKDGTWYYLEASGAMKASQWFKVSDKWYVNLGALAVNTTVDGYKVNANGEWVZ

ID302 (SEQ. ID. NO. 197)

ATGTTTGCATCAAAAAGCGAAAGAAAAGTACATTATTCAATTTCGTAAATTTAGTGTGGAGTAGCTAGTGTAGTTGTTGCCAG
 TCTTGTATTGGGAAGTGTGGTTTCATGCGACAGAGAACGAGGGAGCTACCCAAGTACCCAATTCTTCTAATAGGGCAATGAAA
 GTCCAGGCAGAACCAAGGAGAACCAACCTAAAAAATCGATTCAAGAACGAGATAAGGCAAGGAAAGAGGTGAGGAATATGTA
 AAAATAGTGGGTGAGAGCTATGCAAAATCACTAAAAAGCGACATACAATTACTGTAGCTCTAGTTAACGAGTTGAACAACAT
 TAAGAACGAGTATTTGAATAAAATAGTTGAATCAACCTCAGAAAAGCAATACAGATACTGATGATGGAGAGTCGATCAAAAG
 TAGATGAAGCTGTGTCTAAGTTTGAAGAAGACTCATCTTCTCGTCAAGTTTCAAGTCTTCCACTAAACCGGAAGCTTCAGAT
 ACAGCGAAGCCAAACAAGCCGACAGAACCCAGGAGAAAAGGTAGCAGAAGCTAAGAAGAAGGTTGAAGAAGCTGAGAAAAAGC
 CAAGGATCAAAAAGAGAAGATCGTCGTAACCTACCCAACCACTTACTTCAAAAACGCTTGAACCTGAAATTGCTGAGTCCGATG
 TGAAGTTAAAAAGCGGAGCTTGAACCTAGTAAAAAGTGAAGCTAACGAACCTCGAGACGAGCAAAAAATTAAGCAAGCAGAA
 GCGGAAGTTGAGAGTAAACAAGCTGAGGCTACAAGGTTAAAAAATAAAGCAAGACAGATCGTGAAGAAGCAGAAGAAGCTTAA
 ACAGAGAGCAGATGCTAAAGAGCAAGGTAAACCAAGGGGCGGGCAAAACGAGGAGTTCTTGGAGAGCTAGCAACACCTGATA
 AAAAGAAAATGATGCGAAGTCTTCAGATTCTAGCGTAGGTGAAGAACTCTTCAAGCCCATCCTGAAACAGAAAAAAG
 GTAGCAGAAGCTGAGAAGAAGGTTGAAGAAGCTAAGAAAAAGCGGAGGATCAAAAAGAAGAAGATCGCCGTAACCTACCAAC
 CAATACTTCAAAAACGCTTGAACCTGAAATTGCTGAGTCCGATGTGGAAGTTAAAAAAGCGGAGCTTGAACCTAGTAAAGAGG
 AAGCTAAGGAACCTCGAAACGAGGAAAAAGTTAAGCAAGCAAAAGCGGAAGTTGAGAGTAAAAAAGCTGAGGCTACAAGGTTA
 GAAAAAATCAAGACAGATCGTAAAAAAGCAGAAGAAGCTAAGCAAAAGCAGCAGAAGAAGATAAAGTTAAAGAAAAACC
 AGCTGAACAACCAACCAAGCGCGCGGCTCCAAAAGCAGAAAAACCAGCTCCAAAACCAGAGAATCCAGATGAACCAAC
 CAAAAGCAGAAAAACCAGCTGATCAACAAGCTGAAGAAGCTATGCTCGTAGATCAGAAGAAGAATATAATCGCTTGACTCAA
 CAGCAACCGCCAAAAACTGAAAAACCAGCACAACCATCTACTCCAAAACAGGCTGGAACAAGAAAAACGGTATGTGGTACTT
 CTACAATAGTATGGTTCAATGGCGACAGGATGGCTCCAAAACAATGGCTCATGGTACTACCTCAACAGCAATGGCGCTATGG
 CGACAGGATGGCTCCAAAACAATGGTTCTATGGTACTATCTAAACGCTAATGGTTCAATGGCAACAGGATGGCTCCAAAACAAT
 GGTTCAATGGTACTACCTAAACGCTAATGGTTCAATGGCGACAGGATGGCTCAATACAATGGCTCATGGTACTACCTAAACGC
 TAATGGTTCAATGGCGACAGGATGGCTCCAAATCAATGCTTACGTTACTACCTAAACGCTAATGGTCAATGGTCAATGGCTGAGGTT
 GGGTGAAAGATGGAGATACCTGGTACTATCTTGAAGCATCAGGTGCTATGAAAGCAAGCCAATGGTTCAAAGTATCAGATAAA
 TGGTACTATGTCAATGGCTCAGGTGCCCTTGCACTCAACACAACCTGTAGATGGCTATGGAGTCAATGCCAATGGTGAATGGGT
 AAACATA

(SEQ. ID. NO. 185)

MFASKSERKVHYSIRKFSVGVASVVVASLVMSGVSVHATENEGATQVPTSSNRANESQAEQGEQPKKLDSEDKARKEVEEYVK
 KIVGESYAKSTKKRHTITVALVNLNNIKNEYLNKIVESTSESQQLILMMESRSKVDEAVSKFEKDDSSSSSSSSSTKPEASD
 TAKPNKPTEPGEKVAEAKKKVEEAEKAKDKQKEEDRRNYPTITYKTLELEIAESDVEVKKAELELVKVKANEPREDEQIKQAE
 AEVESQKAEATRLKKIKTDREEAEKRRADAKEQKQKPSGRAKRGVPELATPDKKENDAKSSDSSVGEETLPSPLKPEKK
 VAEAEKKVEEAKKAEQKEDQKEDRRNYPTNTYKLELEIAESDVEVKKAELELVKEEAEKPRNEEKVQKAEVESKKAETRL
 EKIKTDRKKAEEAEKRAAEEDKVKEKPAEQPPAPAPKAEKPAPAPKPENPAEQPKAEKPADQAEEDYARRSEEEYNRLTQ

QPPKTEKPAQPSTPKTGWKQENGMMWYFYNTDGSMTAGWLQNNGSWYYLNSNGAMATAGWLQNNGSWYYLNSNGAMATAGWLQNN
 GSWYYLNSNGAMATAGWLQNNGSWYYLNSNGAMATAGWLQNNGSWYYLNSNGAMATAGWLQNNGSWYYLNSNGAMATAGWLQNN
 WYYVNGSALAVNTTVDGYGVNANGEWVNZ

ID303 (SEQ. ID. NO. 198)

ATGGTAAAAAGACGTATAAGGAGAGGGACGAGAGAACCTGAAAAAGTTGTTGTTCTGAGCAATCATCTATTCTCTCGTATCC
 TGTATCTGTTACATCTAACCAAGGAACAGATGTAGCAGTAGAACAGCTAAAGCAGTTGCTCCAACAACAGACTGGAAACAAG
 AAAATGGTATGTGGTATTTTATAATACTGATGGTTCCATGGCAACAGGTTGGGTACAAGTTAATAGTTTCATGGTACTACCTC
 AACAGCAACGGTTCTATGAAAGTCAATCAATGGTTCCAAGTTGGTGGTAAATGGTATTATGTAAATACATCGGGTGAGTTAGC
 GGTCAATACAAGTATAGATGGCTATAGAGTCAATGATAATGGTGAATGGGTGCGTTAA

(SEQ. ID. NO. 186)

MVKRRIRRGTRPEKVVVPEQSSIPSYPVSVTSNQGTDAVEPAKAVAPTDDWKQENGMMWYFYNTDGSMTAGWVQVNSSWYYL
 NSNGSMKVNQWFQVGGKYYVNTSGELAVNTSIDGYRVNDNGEWWRZ

ID304 (SEQ. ID. NO. 199)

CTGAATACAAGTTTTGTTTCATGCTGCTGATGGGATTCAATATGTCAGAGATGATACTAGAGATAAAGAAGAGGGAATAGAGTA
 TGATGACGCTGACAATGGGGATATTATTGTAAGTAGCGACTAAACCTAAGGTAGTAACCAAGAAAAATTCAAGTACGCGAA
 TTCGTTATGAAAAAGATGAAACAAAAGACCGTAGTGAAAAATCCTGTTACAATTGATGGAGAGGATGGCTATGTAACCTACGACA
 AGGACCTACGATGTTAATCCAGAGACTGGTTATGTTACCGAACAGGTTACTGTTGATAGAAAAGAAGCCACGGATACAGTTAT
 CAAAGTTCAGCTAAAAGCAAGGTTGAAGAAGTTCTTGTTCATTTGCTACTAAATATGAAGCAGACAATGACCTTTCTGCAG
 GACAGGAGCAAGAGATTACTCTAGGAAAGAATGGGAAAACAGTTACAACGATAACTTATAATGTAGATGGAAAGAGTGGACAA
 GTAAGTGAAGTACTTTAAGTCAAAAAAAGACTCTCAAAACAAGAGTTGTTAAAAAAGAACCAAGCCCCAAGTTCTTGTCCA
 AGAAATTCGAATCGAAACAGAATATCTCGATGGCCCACTCTTGATAAAAGTCAAGAAGTAGAAGAAGTAGGAGAAATTGGTA
 AATTACTCTTACTACAATCTATACTGTAG

(SEQ. ID. NO. 187)

LNTSFVHAADGIQYVRDDTRDKEEGIEYDDADNGDIIVKVATKPKVVTTKISSTRIRYKDETKDRSENPTIDGEDGYVTTT
 RTYDVPNETQVTEQVTVDRKEATDTVIKVPKSKVEEVLVPATKYEADNDLSAGQEQEITLKGNGKTVTTITYNVVDGKSGQ
 VTESTLSQKKDSQTRVVKRTRKPKQVLVQEIPIETEYLDGPTLDKSQEVEEVGEIGKLLLLQSILZ

ID305 (SEQ. ID. NO. 200)

ATGAAGCTTTTGAAAAAATGATGCAAATCGCACTAGCCACATTTTTCTTCGGTTTGTAGCGACAAATACAGTATTTGCAGA
 TGATTCTGAAGGATGGCAGTTTGTCCAAGAAAAATGGTAGAACCTACTACAAAAAGGGGGATCTAAAAGAAACCTACTGGAGAG
 TGATAGATGGGAAGTACTATTATTTGATCCTTTATCCGGAGAGATGGTTGTCGGCTGGCAATATATACCTGCTCCACACAAG
 GGGGTTACGATTGGTCTCTCTCCAAGAATAGAGATTGCTCTTAGACCAGATTGGTTTATTTTGGTCAAGATGGTGTATTACA
 AGAATTTGTTGGCAAGCAAGTTTGTAGAAGCAAAACTGCTACGAATACCAACAAACATCATGGGGAAGAATATGATAGCCAAG
 CAGAGAAACGAGTCTATTATTTTGAAGATCAGCGTAGTTATCATACTTTAAAACTGGTTGGATTATGAAGAGGGTCAATTGG
 TATTATTTACAGAAGGATGGTGGCTTTGATTGCGCATCAACAGATTGACGGTTGGAGAGCTAGCACGTTGGTTGGTTAAGGA
 TTACCTCTTACGTATGATGAAGAGAAGCTAAAAGCAGCTCCATGGTACTATCTAAATCCAGCAACTGGCATTATGCAACAG
 GTTGGCAATATCTAGGTAATAGATGGTACTACCTCCATTGCTCAGGAGCTATGGCAACTGGCTGGTATAAGGAAGGCTCAACT
 TGGTACTATCTAGTGTGCTGAAAATGGTGATATGAAACTGGCTGGCAAAACCTTGGGAACAAATGGTACTATCTCCGTTCACTC
 AGGAGCTATGGCAACTGGTTGGTATCAGGAAAGTTGCACTTGGTACTATCTAAATGCAAGTAATGGAGATATGAAAACAGGCT
 GTTTCCAAGTCAATGGTAACTGGTACTATGCCTATGATTACGGTGCTTTAGCTGTTAATACCACAGTAGGTGGTTACTACTTA
 AACTATAATGGTGAATGGGTTAAGTAA

(SEQ. ID. NO. 188)

MKLLKMMQIALATFFGLLATNTVFADDSEGWQFVQENGRITYYKKGDLKETYWRVIDGKYYYFDPLSGEMVVGWQYIIPAPHK
 GVTIGPSPRIELRDPWFYFQDQGVLEQFVVGKQVLEAKTATNTNKHGEEYDSQAEKRVYFEDQRSYHTLKTGWIYEEGHW
 YYLQKDGGFDSRINRLTVGELARGWVKDYPLTYDEEKLKAAPWYYLNPATGIMQTGWQYLGNRWYYLHSSGAMATGWYKEGST
 WYYLDAENGDMRTGWQNLGNKWYYLRSSGAMATGWYQESSTWYYLNASNGDMKTGWQVNGNWWYAYDSGALAVNTTVGGYYL
 NYNGEWWKZ

ID306 (SEQ. ID. NO. 201)

TTGGCTGGTAGATATGGTTCTGCTGTTCACTGTACAGAAGTGACTGCCTCAAACCTTTCAACAGTTAAAACTAAAGCTACGGT
 TGTAAGAAAACCACTGAAAGATTTTAGAGCGTCTACGTCTGATCAGTCTGGTTGGGTGGAATCTAATGGTAAATGGTATTTCT
 ATGAGTCTGGTGATGTGAAGACAGGTTGGGTGAAAACAGATGGTAAATGGTACTATTGTAATGACTTAGGTGTCATGCAGACT
 GGATTTGTAAATTTCTGGTAGCTGGTATTACTTGAGCAATTCAAGTGCTATGTTTACAGGCTGGGGAACAGATGGTAGCAG
 ATGGTTCTACTTTGACGGCTCAGGAGCTATGAAGACAGGCTGGTACAAGGAAAATGGCACTTGGTATTACCTTGACGAAGCAG
 GTATCATGAAGACAGGTTGGTTTAAAGTCGGACCACACTGGTACTATGCCTACGGTTCAGGAGCTTTGGCTGTGAGCACAA
 ACACCAGATGGTTACCGTGTAATGGTAAATGGTGAATGGGTAAACTAG

(SEQ. ID. NO. 189)

LAGRYGSAVQCETVTASNLSTVKTKATVVEKPLKDFRSTSDQSGWVESNGKWYFYESGDVKTGWVKTDGKWYYLNDLGVMT
 GPFVKFSWYYLNSNGAMFTGWGTDGSRWFYFDGSGAMKTGWYKENGTYWYLDGIMKTGWFKVGPWYAYGSGALAVSTT
 TPDGYRVNGNGEWWN

ID307 (SEQ. ID. NO. 202)

ATGAAAATTTTAAAAAACTATGCAAGTTGGACTGACAGTATTTTTCTTTGGTTTGTAGGGACAGTACAGTATTTGCAGA
 TGATTCTGAAGGATGGCAGTTTGTCCAAGAAAACGGAAGAACCTACTACAAAAAGGGGGACCTCAAAGAAACCTACTGGCGAG
 TGATTGATGGTAAGTACTATTATTTGATTCTCTATCTGAGAGATGGTTGTCGGCTGGCAATATATCCCGTTTCCATCTAAA
 GGATAGTCAATTTGGTCTTACCACAAATGGTATCAGATTAGAAGGTTTCCAAAGTCAGAGTGTACTACTCTCGGATAAAAAATGG
 AGTGCTACAAGAGTTTGTGGTTGGAAAACATTAGAGATTAATACTAAAGACAGTGTGGGAAGAAAGTACCGGAAAAACGTTG
 AAGATTGAGAGATAAAGAAGAGAGCGTTATTATACGAACATTTAATCAAAATCATCTTTAGAGACAGGTTGGCTT
 TATGATCAGTCTAAGTGGTATTATCTAGCTAAGACGGAAATTAATGGAGAAAACTACCTTGGTGGTGAAAGACGTGCGGGGTG
 GATAACAGTATGATTCGACTTGGTACTACCTAGATCCAACAACCTGGTATTATGCAACAGGTTGGCAATATCTAGGTAATAAGT

GGTACTACCTCCGTTCTCAGGAGCAATGGCCACTGGCTGGTATCAGGAAGGTACCACTTGGTATTATTTAGACCACCCAAAT
GGCGATATGAAAAACAGGTTGGCAAAACCTTGGGAACAAATGGTACTATCTCCGTTTCATCAGGAGCTATGGCAACTGGTTGGTA
TCAAGATGGTTCAACTTGGTACTACCTAAATGCAGGTAATGGAGACATGAAGACAGGTTGGTTCCAGGTCAATGGCAACTGGT
ACTATGCTTATAGCTCAGGTGCTTTGGCAGTGAATACGACCGTAGATGGCTATTCTGTCAACTATAATGGCGAATGGGTTCCG
TAA

(SEQ. ID. NO. 190)

MKILKKTQVGLTVFFFLGTSTVFADDSEGWQFVQENGRYYKKGLKETYWRVIDGKYYYFDSLSEMVVWGWQYIPFPSK
GSTIGPYNPNGIRLEGFPKSEWYYFDKNGVLQEFVWKTLEIKTKDSVGRKYGEKREDSKKEEKRYTNYFFNQNHSLGTGL
YDQSNWYYLAKTEINGENYLGERRAGWINDDSTWYYLDPTTGMQGTGWQYLGKWKYYLRSSGAMATGWYQEGTTWYYLDHPN
ZDMKGTGWQNLGNKWKYYLRSSGAMATGWYQDGSSTWYYLNAGNGDMKTGWQVNGNWKYYAYSSGALAVNTTVDGYSVNYNGEWW
Z

ID308 (SEQ. ID. NO. 203)

ATGAAAAAGAAATTAAGTACTAGTTAGCACTTGTAGGCGCTTTTTTAGGTTTGTCTATGGTATGGGAATGTTTCAAGAAAG
TTCAGGAAATAAAATCCACTTTATCAATGTTCAAGAAGGTGGCAGTGATGCGATTATCTTGAAGCAATGGACATTTTGCCA
TGGTGGATACAGGAGAAGATTATGATTTCCAGATGGAAGTGATTCTCGCTATCCATGGAGAGAAGGAATTGAAACGCTCTTAT
AAGCATGTTCTAACAGACCGGTGTCTTTTCGTCGTTTGAAGGAATTGGGTGTCCAAAACTTGATTTTATTTTGGTGACCCATAC
CCACAGTGATCATATTGGAAATGTTGATGAATTACTGTCTACCTATCCAGTTGACCGAGTCTATCTTAAGAAATATAGTGATA
GTCGTATTACTAATCTGAACGTCTATGGGATAATCTGTATGGCTATGATAAGGTTTACAGACTGCTGCAGAAAAAGGTTGT
TCAGTTATTTCAAAATATCACACAAGGGGATGCTCATTTTTCAGTTTGGGGACATGGATAATTCAGCTCTATAAATTAAGAAATGA
AACTGATTCATCGGGTGAATTAAGAAAAATTTGGGATGACAATTTCAATTCTTGTATTAGCGTGGTGAAGTCAATGGCAAGA
AAATTTACCTTGGGGGCGATTTAGATAATGTTTATGGAGCAGAGACAAGTATGGTCTCTCATTGGAAGGTTGATTGTTGATG
AAGTTTAATCATCACCATGATACCAACAAATCAAATACCAAGGATTTTCAATAAAAATTTGAGTCCGAGTTTGTATTGTTCAAC
TTCGGATAGTCTACCTTGGAAAAATGGTGTGATAGTGAGTATGTTAATTGGCTCAAAGAACGAGGAATTGAGAGAATCAACG
CAGCCAGCAAAGACTATGATGCAACAGTTTTTGTATTTGAAAAAGCGGTTTTGTCAATATTTCAACATCTTACAAGCCGATT
CCAAGTTTTCAAGCTGGTTGGCATAAGAGTGCATATGGGAACCTGGGTGATCAAGCGCTGATTCTACAGGAGAGTATGCTGT
CGGTTGAAGTGAATCGAAGGTGAATGGTATTACTTTAAACCAAAACGGGTATCTTGTACAGAATCAATGGAAAAATGGAACA
ATCATTTGTTCTATTTGACAGACTCTGGTGTCTCTGCTAAAAATTTGAAGAAAAATCGCTGGAATCTGGTATTATTTTAAACAA
GAAACCAGATGGAATTTGTTGGATTCAAGATAAAGAGCAGTGGTATTATTTGGATGTTGATGGTTCTATGAAGACAGGATG
GCTTCAATATATGGGGCAATGGTATTACTTTGCTCCATCAGGGGAAATGAAATGGGCTGAAAGATAAAGAAAACTGGT
ACTATATGGATTCTACTGGTGTCTATGAAGACAGGTGAGATAGAAGTTGCTGGTCAACATTATTATCTGGAAGATTGAGGAGCT
ATGAAGCAAGGCTGGCATAAAAAGGCAAATGATTGGTATTTCTACAAGACAGACGGTTCACGAGCTGTGGGTTGGATCAAGGA
CAAGGATAAATGGTACTTCTTGAAGAAAAATGGTCAATTACTTTGTAACGGTAAGACACCAGAAGGTTTACTGTGGATTCAA
GTGGTCTGGTTGGTATGTTTCGATCGAGAAATCTGCTACAATTAAGAACTACAAGTCAATCAGAAATAAAAGAAATCCAAA
GAAGTAGTGAAAAAGGATCTTGAAATTAAGAAACGAGTCAACATGAAAGTGTTACAATTTTTCACTAGTCAAGATTGAC
ATCCTCAACTTCACAAAGCTCTGAAACGAGTGTAACAAATCGGAATCAGAACAGTAG

(SEQ. ID. NO. 191)

MKKKLTSLALVGAFLGLSWYGNVQAQESSGNKIHFINVQEGGSDAIILESNGHFAMVDTGEDYDFPDGSDSRYPWREGIETSY
KHVLTDRVFRRLKELGLVQKLDLILVTHTHSDHIGNVDELLSTYVDRVYLKKYSDSRI TNSERLWDNLGYDKVLQTAEEKGV
SVIQNITQGDHAFQFGMDIQLNYENETDSSGELKKIWDNNSNLSISVVKVNGKKIYLGDDLNDNVHGEDYDKYGLIGKVDLM
KFNHHDHNTKSNKDFIKNLSPLSIVQTSLSLPWKNGVDSEYVNWLERGIERINASKDYDATVFDIRKDGFEVNIISTSYKPI
PSFQAGWHKSYAGNWWYQAPDSTGEYAVGWNEIEGEWYYFNQGTIGLLQNWKKWNNHWFYLTDSGASAKNWKKIAGIWIYYFNK
ENQMEIGWIIQDKQWYLLDVGSMKTGLWQYMGQWYFAPSGEMKMGWVKDKETWYMDSTGVMKTGETEVAGOHYYLEDSSA
MKQGWKKANDWYFYKTDGSRVAGWIKDKDKWYFLKENGQLLVNGKTPGYTVDSGAWLVDSIEKSATIKTTSHEIKESK
EVVKKDLNENKETSQHSVTNFSTSQDLTSSTSQSSETS SVNKSESEQZ

ID309 (SEQ. ID. NO. 204)

ATGGAATTAATGTGAGTAAATTAAGAACAGATTTGCCTCAAGTCGGCGTGCAACCATATAGGCAAGTACACGCACACTCAAC
TGGGAATCCGCAATCAAGGTACAGAATGAAGCGGATATCACTGGCGGAAGACCCAGAATTAGGTTTTCTCGCACATTG
TTGGGAACGGTTGCATCATGCAGGTAGGACCTGTTGATAATGTTGCTGGCGACGTTGGGGGCGGTTGGAATGCTGAGACCTAT
GCAGCGGTTGAAGTGAATGAAAGCCATTCAACCAAGAAGAGTTCATGACGGAATACCGCCTTTATATCGAACTCTTACGCAA
TCTAGCAGATGAAGCAGGTTTGCCGAAACGCTTGATACAGGAGTTTAGCTGGAATTAACCGCACGAGTATTGCACGAATA
ACCAACCAACCAACCACTCAGACCAAGTACCTTATCCATATCTTGTCTAAATGGGGCATTAGCCGTGAGCAGTTTAAAGCAT
GATATTGAGAACGGCTTGACGATTGAACAGGCTGGCAGAAGATGACACTGGCTACTGGTACGTACATTACAGCGGCTCTTA
TCCAAAAGACAAGTTTGAAGAAATCAATGGCACTTGGTACTACTTTGACAGTTCAAGCTATATGCTTGCAGACCGCTGGAGGA
AGCACACAGACGGCAACTGGTACTGGTTGACAACTCAGGCGAAATGGCTACAGGCTGGAAGAAATGCTEVAGOHYYLEDSSA
TATTTCAACGAAGAAGGTGCCATGAAGACAGGCTGGGTCAAGTACAAGGACACTTGGTACTACTTAGACGCTAAAGAAGGCGC
CATGGTATCAAATGCCTTTATCCAGTCAGCGGACGGAACAGGCTGGTACTACTCAAACAGACGGAACACTGGCAGACAAGC
CAGAATTCACAGTAGAGCCAGATGGCTTGATTACAGTAAATAA

(SEQ. ID. NO. 192)

MEINVSKLRTDLPQVGVPYRQVHAHSTGNPHSTVQNEADYHWRKDPGLGFFSHIVGNGCIMQVGPVDNGAWDVGGGWNAEY
AAVELIESHSTKEEFMTDYRLYIELLRNLADEAGLPKTLDTGSLAGIKTHEYCTNNQPNHSDHVDPPYLAKEWISREQFKH
DIENGLTIETGWQKNDTGYYVHSDGSYPKDKFEKINGTWYFDSSGYMLADRWKHTDGNWYWFNDSGEMATGWKKIADKWY
YFNEEGAMKTGWVKYKDTWYYLDAKEGAMVSNAFIQSADGTGWYYLKPDLADKPEFTVEPDGLITVKZ

ID310 (SEQ. ID. NO. 205)

ATGGGCACAACAGGATTTACAATAATTGACTTAATTATCTTGATTGTTTATTTACTTGGCGTGTGGTTGCAGGTATCTATTT
CTCTAAAAAGAGATGAAAGGAAAGAGTTCTTTAAAGGAGATGGTTCCGTTCCCTTGGTATGTTACTTCCGTTATCCATTTTGG
CCAAATGCTCAGTCCGATTTCTTGGGACTCGCTGGTAGCTCTTATCAGGATAGCTGGATTATGAGTTGCTGATGCTCAATTA
GGGATGGTAGTAGCTATTCCACTGACAATTCGTTTTATCTTACCTATCTTTGCACGGATAGACATCGATACGGCATATGATTA
CTTGGATAAACGTTTAAATCTAAAGCACTTCGTATTTTTCAGCACTCTTGTATTATTTATCAATTTGGGACGTATGCTA
TCATTATGATCTCCCATCAGCTGGTTATCAGATTGACAGGAATTGACATCAATATTTGATTATTTGATTGTTGATTGTTGATT
GCAATTGTTTATCTTATACTGGTGGTCTAAATCCGTATTATGGACAGACTTTATTCAAGGTGTGATTCTGATTAGTGGTGT

CGTTTTAGCTTTATTTGTACTGATTGCTAATATTAAGGTGGCTTTGGTGCAGTAGCAGAAACATTAGCAACGGGAAATTCC
 TTGCTGCAAAATGAAAACTTTTCGATCCTAAGTTCCTTTTCAAACTCCATCTTTTAAATTGTGATGGGTTTCAGGCTTTACAATC
 TTGCTCTTCTATGCTTCATCTCAAGATTTGGTTCACGTTTTACTACAACACAAATATTAAGAACTTAATAAGATGTTGTT
 CACAAACGGTGTGTTTGTCACTTGCAACTGCAACAGCTCTTTTACTTGTATTGGTACAGGCTTGTACGTATTCTATCAAGTACAAA
 ATGCAGATAGTGCAGCTAGCAATATCCCTCAAGACCAATCTTTATGTACTTTTATGCAATACCAGTTACCAGTAGGTATCACA
 GGTGTTGATCTTGGCAGCGATTATGTCAGCATCTCAATCAACTATTTCAACAGGTTTGAACCTCTGTTGCAACTTCATGGACATT
 GGATATTCAAGATGTCAATTTCTAAAAATATGTGAGACAATCGTCGTACGAAAATTGCACAATTCGTATCTCTAGCAGTAGGTT
 TATTCTCAATTGGTGTGTTTCCATTGTCTAGGCTCACTCAGATATTAATCTGCATACGAATGGTTCAATAGTTTCATGGGACTT
 GTACTTGGTCTACTTGGTGGTGTATTTATTTCTGGATTGTTTCTAAAAAAGCAAATAAACAAGGTGCTTATGTCAGCGCTGAT
 TGTATCAACCATCGTCATGGTATTTATTAATACTTCTCTCCCAACAGCTGTTAGCTACTGGGCATATTCAATTGATTTCAA
 TCTCTGTATCAGTAGTTTCAGGTTATATTGTATCTGTTCTTACTGGAAATAAAGTATCTGCACCTAAATATACAACGATTCTAT
 GATATTACAGAAATTAAGCGGATTCAAGTTGGGAAGTTTCGTCACATA

(SEQ. ID. NO. 193)

MGTTGFTIIDLIIILVYLLAVLVAGIYFSKKEMKGKEFFKGDGVSVPWYVTSVSIFATMLSPISFLGLAGSSYAGSWILWFAQL
 GMVVAIPLTIRFILPIFARIDIDTAYDYLKRFNSKALRIISALLFIYQLGRMSIMYLPSAGLSVLTGIDINILIIILMGVV
 AIVSYTGGGLKSVLWTFDIQGVILISGVVLALFVLIANIKGGFGAVAETLANGKFLAANEKLFDPNLLSNSIFLIVMSGFTI
 LSSYASSQDLVQRFRTTQNIKKLNKMLFTNGVLSLATATVFYILGTGLYVYFQVQNADSAASNIPODQIFMYFIAYQLPVGIT
 GLILAAIYAASQSTISTGLNSVATSWTLDIQDVISKMSDNRRTKIAQFVSLAVGLFISGVSVMAHSDIKSAEWFNSFMGL
 VLGLLGGVFIILGFVSKKANKQGAYAAALIVSTIVMVFIKYFLPPTAVSYWAYSLISISVSVVSGYIVSVLTGNKVSAPKYTTIH
 DITEIKADSSWEVRHZ

ID311 (SEQ. ID. NO. 206)

ATGAAAATTAATAAAAAATATCTAGCAGGTTCAAGTGGCAGTCCCTGCCCCTAAGTGTGTTGTTCTCTATGAGCTTGGTGCCTACCA
 AGCTGGTCAGGATAAGAAAGAGTCTAATCGAGTTGCTTATATAGATGGTGTATCAGGCTGGTCAAAGGCGAGAAAACCTTGACAC
 CAGATGAAGTCAGTAAGAGGGAGGGATCAACGCCGAACAAATCGTCATCAAGATTACGGATCAAGGTTATGTGACCTCTCAT
 GGAGACCATTATCATTACTATAATGGCAAGTCCCTTATGATGCCATCATCAGTGAAGAGCTCCTCATGAAAGATCCGAATTA
 TCAGTTGAAGGATTGACATTTGTCAATGAAATCAAGGGTGGTTATGTCTATCAAGGTAGACGGAAAATCTATGTTTACCTTA
 AGGATGTCAGCTCATGCGGATAATATTCGGACAAAAGAGAGATTAACAGTCAGAAAGCAGGAACGAGTCAATCAACGGGTCA
 GGAGCTAACGATCATGTCAGTAGCTGCAGCCAGAGCCCAAGGACGCTATACAACGGATGATGGGTATATCTTCAATGCATCTGA
 TATCATTGAGGACACGGGTGATGCTTATATCGTTCTCTCAGCGGACCATTACCATTACATTCTCTAAGAAATGAGTTATCAGTCA
 GCGAGTTAGCTGCTGCAGAGCCTATTGGAATGGGAAGCAGGATCTCGTCTCTCTCAAGTTCTAGTTTATAATGCAATCCCA
 GCTCAACCAAGATTGTGAGAGAACCACAACTCTGACTGTCACTTCAAACTTATCATCAAAATCAAGGGGAAAAATTTCAAGCCT
 TTTACGTGAATTGTATGCTAAACCTTATCAGAACGCCATGTGGAATCTGATGGCCTTATTTTCGACCCAGCGCAAATCACAA
 GTCGAACCCGACAGAGTGTAGCTGTCCCTCATGGTAACCAATTACCACTTATCCCTTATGAACAAATGTCTGAATTGGAAAAA
 CGAATTGCTCGTATTATTTCCCTTCGTTATCGTTCAAACCAATTGGGTACAGATTCAAGACCAGAACCAACCAAGTCCACAATC
 GACTCCGGAACCTAGTCCAAGTCCGCAACCTGCACCAATCTCAACCAGCTCCAAGCAATCCAATTGATGAGAAATTGGTCA
 AAGAAGCTGTTGCAAAAGTAGGCGATGGTTATGTCTTTGAGGAGAATGGAGTTTCTCGTTATATCCCAGCCAAAGGATCTTTCA
 GCAGAAACGAGCAGGCAAGCATTGATAGCAAACTGGCCAAAGCAGGAAAGTTTATCTCATAAGCTAGGAGCTAAGAAACTGACCT
 CCCATCTAGTGATCGAGAATTTTACAATAAGGCTTATGACTTACTAGCAAGAATTCACCAAGATTTACTTGATAATAAAGGTC
 GACAAGTTGATTTTGGAGCTTTGGATAACCTGTTGGAACGACTCAAGGATGTCCCAAGTGATAAAGTCAAGTTAGTGGATGAT
 ATTCTGCTCTTACCTCGATCCGATTCTGTCATCCGAACGTTTAGGAAAACCAATGCGCAAATTACCTACACTGATGATGAGAT
 TCAAGTAGCCAAGTTGGCAGGCAAGTACACAACAGAAGACGGTTATATCTTTGATCCTCGTGATATAACCAGTGATGAGGGG
 ATGCTATGTAACCTCACATATGACCCATAGCCACTGGATTAAGAAAGATAGTTTGTCTGAAGCTGAGAGAGCGGCAGCCAG
 GCTTATGCTAAAGAGAAAGGTTGACCCCTCCTTCGACAGACCATCAGGATTCAGGAAATCTGAGGCAAAAGGAGCAGAAAG
 TATCTACAACGCTGCTGAAAGCAGCTAAGAAGGTGCCATTGATCGTATGCTTACAACTTCAATATCTGTAAGAGTCAAAA
 ACGGTAGTTTAAATCATACCTCATTATGACCATTACCATAACATCAAATTTGAGTGGTTTGACGAAGGCCTTTATGAGGCACCT
 AAGGGGTACTCTTGGAGATCTTTTGGCGACTGTCAAGTACTATGTGCAACATCCAAACGAACGTCGCGATTAGATTAATGG
 TTTTGGTAACGCTAGCGACCATGTTCAAAGAAACAAATGTTGTTCAAGCTGATACCAATCAAACGGAACCAAGCAGGAGGA
 AACCTCAGACAGAAAAACCTGAGGAAGAAACCCCTCGAGAAGAGAAACCGCAAAGCAGAGAAACAGAGTCTCCAAAACCAACA
 GAGGAACCAAGAAATCACCAGAGGAATCAGAAGAACCTCAGGTGAGAGCTGAAAAGGTTGAAGAAAAACTGAGAGAGGCTGA
 AGATTACTTGGAAAAATCCAGGATCCAATTCAAGTCCAATGCCAAGAGACTCTCACAGGATTAATAAATTTACTAT
 TTGGCACCCAGGACAACAATACTATTATGGCAGAAGCTGAAAAACCTATTGGCTTTATTAAGGAGAGTAAGTAA

(SEQ. ID. NO. 194)

MKINKKYLGSVAVLALSVCYSYELGRHQAGQDKKESNRVAYIDGDAQQKAENLTPEVSKREGINAQIVIKITDQGYVTS
 GDHYHYNGKVPYDAIISEELLMKDPNYQLKDSIDVNEIKGGYVIKVDGKYVYVYLKDAHADNIRTKKEIKRQKQERSHNHGS
 GANDHAVAARAQGRYTTDDGYIFNASDIIEDTGDYIVPHGDHYHYIIPKNELASASELAEEAYWNGKQGRSPSSSSSYNANP
 AQPLSENHNLTVPTTYHQNGENISSLLRELYAKPLSERHVESDGLIFDPAQITSRARGVAVPHGNHYHFIPEQMSLEK
 RIARIIPLYRNSNHWPDSRPEQSPQSTPEPSPSPQAPNPQAPSNPIDKLVKEAVRKVGDDGYVFEENGVSRYIPAKDLS
 AETAAGIDSKLAKQESLSHLGAKKTDLPSSDREFYNKAYDLLARIHQDLDLNKGRQVDFEALDNLRLKDVPSDKVLVDD
 ILAFLAPIRHPERLGGKPNQAITYTDDEIQVAKLAGKYTTEDGYIFDPRDITSDEGDYVTPHMTSHHWIKKDSLSEABRAAAQ
 AYAKEKGLTPPSTDHQDSGNTAEKGAELIYNRVKAARKVPLDRMPYNLYQTVFVKNGLIIPHYDHYHNIKFEWFDEGLYEAP
 KGYTLEDLLATVKYVVEHPNERPHSDNGFGNASDHVQRNKGQADTNQTEKPEEKPTTEKPEETPREKPPQSEKPEPKPT
 EEPESPESEEPQVETEKVEEKLREAEDLLGKIQDPIIKSNAKETLTGLKNNLLFGTQDNNTIMAEAEKLLALLKESKZ

ID312 (SEQ. ID. NO. 207)

ATGAGAGGATTGGTTAGAGTGCATTTATTGCCTGTATTGGCGATTACAAGCTATCTAACTTACTACGCCTATTCTTCAACA
 GCAAGTAAACAAATGGGCTGACAAGGCAAAATAAGGCGAAAAGGGGCAATTGCTAACTACTCTTGTCCATAACATGAATA
 AGCGTATTTTGAATATGGCGTAGCTATCCAGGTAATACAAATCAACCCAGCTAATGATGTCTATGCTCCACGCAACAGCAA
 AAAGAAAAGGCTGCTGTCAAATCTTAGACAACAAAGAAATTAACAGTTTCTTGATTATTTAGATGCTCTGGATCAATCAAA
 TTATGAGAACTTATTGATGTTGTTCTGTATAAGACTTTATGGCCACTGGTTGGCCGTATTAGTGAGGCTCTGGCTCTTGAAT
 GGTCTGATATTGATAGAAAGCGGTGTTATCAGCATCAATAAGACACTAAACCGCTATCAGGAAATAAACTACCTTAATCA
 AGCGCTGGTTATCGTGATATACCAATAGACAAAGCCACATTACTTTTACTGAAACAATACAAAAACCGTCAACAAATTCAGTC
 TTGGAATTAGGCCGATCTGAACAGTTGTATTCTCTGTATTTACGGAGAAATATGCTTATGCTTGTAACCTACGCAACGCC
 TAAATAAGCATTGTTGATGCTGCTGGAGTAACTAACGTATCATTTTCATGGTTTCCGCCATACACATACTACTATGATGCTCTAT

GCTCAGGTTAGCCCGAAAGATGTTTCAGTATAGATTAGGCCACTCTAATTTAATGATCACTGAAAATACTTACTGGCATACTAA
CCAAGAGAATGCAAAAAAGCCGTCTCAAATTATGAAACAGCTATCAACAATTTATAA

(SEQ. ID. NO. 195)

MEGLVRVHLLPVFGDYKLSKLTTPILQQQVNWADKANKGEGAFANYSLHNMNKRILKYGVAIQVIQYNPANDVIVPRKQQ
KEKAAVKYLDNKELKQFLDYLDALDQSNYENLFDVVLYKTLLATGCRISEALALEWSDIDLESGVISINKTLNRYQEINSPKS
SAGYRDIPIDKATLLLLLKQYKNRQQIQSWKLGRSETVVFSVFTEKYAYACNLRLNKHFDAAGVTNVSFHGFRHTHTTMMLY
AQVSPKDVQYRLGHSNLMITENTYWHNTQENAKKAVSNYETAINN LZ

At Page 1, 2nd full paragraph:

Background of the Invention

Streptococcus pneumoniae, commonly referred to as the pneumococcus, is an important pathogenic organism. The continuing significance of *Streptococcus pneumoniae* infections in relation to human disease in developing and developed countries has been authoritatively reviewed (Fiber, G.R., Science, **265**:1385-1387 (1994)). That indicates that on a global scale this organism is believed to be the most common bacterial cause of acute respiratory infections, and is estimated to result in 1 million childhood deaths each year, mostly in developing countries (Stansfield, S.K., *Pediatr. Infect. Dis.*, **6**:622 (1987)). In the USA it has been suggested (Breiman *et al*, *Arch. Intern. Med.*, **150**:1401 (1990)) that the pneumococcus is still the most common cause of bacterial pneumoniae, and that disease rates are particularly high in young children, in the elderly, and in patients with predisposing conditions such as asplenia, heart, lung, and kidney disease, diabetes, alcoholism, or with immunosuppressive disorders, especially AIDS. These groups are at higher risk of pneumococcal septicaemia and hence meningitis and therefore have a greater risk of dying from pneumococcal infection. The pneumococcus is also the leading cause of otitis media and sinusitis, which remain prevalent infections in children in developed countries, and which incur substantial costs.

At Page 3, 2nd full paragraph:

Brief Summary of the Invention

Thus, in a first aspect the present invention provides a *Streptococcus pneumoniae* protein or polypeptide having a sequence selected from those shown in Table 2 herein.

At Page 3, 2nd full paragraph:

Detailed Description of the Invention

As discussed herein, the proteins and polypeptides of the invention are useful as antigenic material. Such material can be “antigenic” and/or “immunogenic”. Generally, “antigenic” is taken to mean that the protein or polypeptide is capable of being used to raise antibodies or indeed is capable of inducing an antibody response in a subject. “Immunogenic” is taken to mean that the protein or polypeptide is capable of eliciting a protective immune response in a subject. Thus, in the latter case, the protein or polypeptide may be capable of not only generating an antibody response and in addition non-antibody based immune responses.

At page 101, line 1:

~~CLAIMS~~ What is claimed is: